



October 4, 2004  
Project 97598

Geotechnical  
Environmental and  
Water Resources  
Engineering

Mr. Christopher Pyott  
Environmental Analyst  
Department of Environmental Protection  
Bureau of Waste Site Cleanup  
One Winter Street  
Boston, MA 02108

Dear Mr. Pyott:

**Re: Completion Statement and Addendum to Status Report No. 8  
Part 2 Construction-Related Release Abatement Measure (RAM)  
51 Eames Street Property  
Wilmington, MA  
RTN 3-0471**

The purpose of this letter report is to update the recently submitted Status Report No. 8 and to present a Completion Statement for the Part 2 Construction-Related Release Abatement Measure (RAM) for the 51 Eames Street property in Wilmington, Massachusetts (the Property), as required under 310 CMR 40.0442 of the Massachusetts Contingency Plan (MCP). This Completion Statement is based in part on information presented in eight RAM Status Reports issued between December 2001 and September 2004. To support this RAM Completion Statement, a comprehensive summary of the RAM activities taken between August 2000 and August 2004 was presented in the most recent Status Report No. 8, dated September 7, 2004.

Additionally, an updated Focused Site Characterization (FSC)/Focused Risk Assessment (FRA) that incorporates data collected at the Property following the remedial actions taken during this RAM is being submitted under separate cover to DEP. The FSC/FRA includes data collected during the ongoing Immediate Response Action (IRA) and Supplemental Phase II Investigations related to the detection of N-nitrosodimethylamine (NDMA).

Please note that while remedial efforts performed pursuant to this RAM will support the proposed redevelopment of the northern portion of the Property, this RAM Completion Statement does not, nor is it intended to, meet the requirements of DEP Policy No. WSC-00-425 *Construction of Buildings in Contaminated Areas*, dated January 2000 (the Construction Policy) as they apply to that proposed use. A Focused Feasibility Study (FFS), and Construction-Related RAM Plan, will be submitted separately to DEP for the proposed future development. The updated FSC/FRA mentioned above does address the future conditions associated with the proposed future use.

As previously reported, analytical data developed for the Property during this RAM and the MCP response actions described above were collected, analyzed, and validated in accordance with the Project Quality Assurance Project Plan (QAPP) and entered with qualifiers, as appropriate, in the Olin project database. Unless noted above, per Olin's agreement with DEP, copies of the analytical data provided by the laboratory and data validation summaries are not included in this or previous submittals, but are available upon request. The laboratory testing data referenced in this Completion Statement were validated by MACTEC Engineering and Consulting, Inc. (MACTEC), and were also reviewed by me, the Licensed Site Professional (LSP) of Record. It is my opinion that the laboratory data reported in these documents are suitable to support this Completion Statement.

A RAM Transmittal Form (BWSC-106) signed by the LSP of Record, is enclosed with this letter report. A copy of the Transmittal Form is presented in Appendix A.

A copy of this RAM Status Report will be placed in the Olin Site Public Repository, which is maintained at the Wilmington Memorial Library at 175 Middlesex Avenue in Wilmington, Massachusetts. Copies will also be provided to the Wilmington and Woburn Town Offices and Boards of Health.

## 1. BACKGROUND

The Olin Property is comprised of approximately 53 acres of undeveloped land and an inactive industrial facility located in a commercial and industrial area in Wilmington, Massachusetts. The location of the Property is shown in Figure 1. A plan of the Property is presented in Figure 2. The Property is a portion of the area that constitutes the 51 Eames Street site (Release Tracking Number [RTN] 3-0471), a Tier 1A site as defined in the MCP.

The Property is the location of a former chemical manufacturing facility that operated from 1953 until 1986. The former manufacturing processes conducted at the Property generated liquid wastes, which contained sulfuric acid, sodium chloride, sodium sulfate, ammonium sulfate, chromium sulfate, and other constituents, including oils and organic compounds. Prior to 1972, the discharge of these wastes into unlined pits, Lake Poly, and other disposal areas on the Property caused subsurface contamination both on and off the Property.

These historical releases of oil and hazardous material (OHM) have resulted in the contamination of soil, groundwater, sediment, and surface water at the Property, and areas to the east, south and west of the Property. As a result of some these releases, a Dense Aqueous Phase Liquid (DAPL) is present at the top of bedrock in groundwater in portions of the Property and in subsurface areas to the west of the Property. Light Non-Aqueous Phase Liquid (LNAPL) composed of organic compounds is also present in groundwater in the Plant B Area. Both the dense aqueous phase liquid (DAPL) and the LNAPL contribute to the presence of contamination in groundwater and, at some locations, surface water on the Property. Detailed histories for the Property and the Site are contained in the report entitled *Supplemental Phase II Comprehensive Site Assessment (CSA)* prepared by Smith Technology Corporation dated June 1997, and in subsequent reports, all of which were submitted to DEP.<sup>1</sup>

To support the former planned redevelopment of the northern portion of the Property for use as a warehouse distribution facility, certain response actions were proposed to be performed as a RAM under the MCP. Submittals associated with the RAM were prepared in accordance with the requirements of the Construction Policy. The Part 1 RAM Plan was submitted to DEP on April 6, 2000, and contained a FSC, FRA, and FFS, as required by the Construction Policy. The Part 1 RAM Plan was conditionally approved by DEP on June 26, 2000.

The Part 2 RAM Plan was submitted to DEP on July 24, 2000, and included plans for the excavation, treatment, and reuse or disposal of contaminated soil and sediment, and the construction of a soil-clay containment wall and cap to control the migration of on-property DAPL. DEP conditionally approved the Part 2 RAM Plan on August 9, 2000.

Work at the Property under the RAM Plan commenced in August 2000. Since that time, eight Construction-Related RAM Status Reports have been submitted to DEP. These status reports and

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<sup>1</sup>Reports regarding the MCP response actions at the 51 Eames Street Site, published after 1997, are available for review at the Site Repository of Information at the Wilmington Memorial Public Library.

the key information presented in each report are listed in Table 1. Additionally, eleven RAM modifications and associated addenda were submitted to DEP, all of which were conditionally approved by DEP. A summary of the RAM modifications was presented in Status Report No. 8. The RAM modifications and associated conditions of approval established by DEP are also listed in Table 1 of this Completion Statement.

The most recent Status Report (No. 8) presented a comprehensive summary of RAM activities undertaken between August 2000 and August 2004 and reported that the primary tasks related to the RAM and RAM amendments, have been completed with the following exceptions:

- Lake Poly soil disposal
- Installation of a permanent cap over the Containment Area
- Closure of the former Biocell/management of drainage sand
- Post-construction monitoring

Additionally, we note that there are ongoing monitoring and administrative requirements for open wetland permits that were obtained to support his RAM. These requirements are described in Section 5 of Status Report No. 8, and in Section 5.3.3 of this Completion Statement. Closure of permits is not a specific condition of the RAM approvals nor does the MCP require permit closure to be documented in a Completion Statement.

The off-site disposal of the Lake Poly soil was accomplished during the week of September 13 through 17, 2004. A description of the disposal activities is presented in Section 5 of this letter.

In Status Report No. 8, Olin proposed the future installation of the Permanent Cap, the continuation of the monitoring programs currently associated with the RAM, and further wetland monitoring, as "Post-RAM Activities." Olin also proposed that the Biocell soil be reused on-Property, either in place or as upland fill material for future redevelopment of the northern portion of the Property. The basis for this recommendation is described in Section 5.3.2 of this letter.

## **2. CONTACT INFORMATION**

### **Responsibility for the Construction-Related RAM**

Steve Morrow, P.E.  
Olin Corporation  
1186 Lower River Road  
Charleston, TN 37310  
423.336.4511

### **Licensed Site Professional**

M. Margret Hanley, LSP No. 8494  
Sleeman, Hanley, and DiNitto  
c/o GEI Consultants, Inc.  
1021 Main Street  
Winchester, MA 01890  
781.721.4000

### **Engineer-of-Record**

Thomas W. Kahl, P.E., No. 37805  
GEI Consultants, Inc.  
1021 Main Street  
Winchester, MA 01890  
781.721.4000

### 3. RAM OBJECTIVES

The two initial objectives presented in the RAM Plan of July 24, 2000 were:

1. Remove chromium- and phthalate-contaminated sediments from selected portions of the On-Property Ditch System to eliminate exceedances of the Upper Concentration Limits (UCLs) and to achieve background concentrations of Site-related contaminants of concern (COCs) to the extent feasible.
2. Contain residual DAPL and significantly contaminated groundwater within a subsurface containment system (slurry wall) to mitigate the impact of the discharge of contaminated groundwater on surface water and sediments in the On-Property Ditch System.

Additional objectives were established by RAM Plan Modifications and correspondence with DEP including:

- Eliminate three locations of significant soil contamination, generally referred to herein as "hot spots."
- Initiate a Post-Construction Monitoring Plan (PCMP) to monitor groundwater and surface water quality on and near the Property after the construction of the Containment Wall/Cap System was completed in 2001.
- Delineate the historical limits of the former Lake Poly area and excavate soil with contaminant concentrations exceeding UCLs.
- Excavate soil along the banks of the Central Pond to remediate areas where oily subsurface soil was first observed in 2001.
- Develop a plan for dismantling the Bioremediation Cell and reuse or disposal of the drainage sand.

### 4. PLANS AND PERMITS

The Part 2 RAM Plan for this work was submitted to DEP on July 24, 2000, and was conditionally approved by DEP on August 9, 2000. Through July 2004, eleven RAM modification requests and associated addenda have been submitted to DEP (Table 1).

Non-MCP permits and approvals were obtained in connection with the remedial work performed under the Construction RAM, including a Massachusetts Environmental Policy Act (MEPA) Waiver, two Orders of Conditions (OOCs) under the Massachusetts Wetland Protection Act (WPA) issued by the Wilmington Conservation Commission (WilmCC), a DEP 401 Water Quality Certification, a U.S. Army Corp of Engineers (USACE) 404 Permit, and a National Pollutant Discharge Elimination System (NPDES) Permit Exclusion.

A summary of the RAM modifications and related DEP approvals, and other permits and approvals obtained for the remedial work performed under the RAM, was presented in Status Report No. 8, and is also described in Section 5 and Table 1 of this Completion Statement.

## **5. STATUS OF RAM ACTIVITIES AND PERMITS**

### **5.1 Disposal of Lake Poly Soil and Cap Drum Contents**

As described in Status Report No. 8 dated August 30, 2004, the material found in a subsurface drum adjacent to the Containment Area in 2003 was transported from the Property, under a Bill of Lading (BOL) (Form BWSC-012A-C), to CWM Chemical Services in Model City, New York (CWM). A copy of the completed BOL is presented in Appendix B.

Approximately 736 tons of soil, which included a small amount of debris excavated from the former Lake Poly Area in June 2004, was shipped to the Turnkey Landfill in Rochester, New Hampshire (Turnkey), under a BOL on September 14, 2004. A copy of the completed BOL for the shipment of the soil is presented in Appendix B. A detailed description of the remedial excavation and the testing of the soil stockpile were presented in Status Report No. 8.

The original BOL forms for the drum material and the excavate from former Lake Poly Area has been submitted to DEP under separate cover, in accordance with 310 CMR 40.0034(5), which requires submission of the BOL within 30 days of the shipment of the material.

### **5.2 Summary of Completed RAM Activities**

A detailed description of the completed RAM activities was presented in each RAM Status Report (Table 1). A comprehensive summary of completed activities was presented in Status Report No. 8, with the exception of the soil disposal activities described above.

### **5.3 Post-RAM Activities**

Several monitoring and maintenance activities related to the remedial work performed under this RAM are ongoing and will continue as conditions of permits obtained in connection with that work. Based on our discussions with DEP, Olin has recommended that these activities be carried forward separate from the RAM, as "Post-RAM activities" (see Status Report No. 8). Post RAM activities proposed by Olin are described below.

#### ***5.3.1 Containment Area Permanent Cap Installation***

A Temporary Cap constructed of sheets of 6-mil reinforced polyethylene was placed over the Containment Area between December 2000 and April 2001. Individual sheets were overlapped and held in place with ballast bags. In April 2003, improvements to the Temporary Cap were made by placing 8-mil reinforced polyethylene sheeting over the existing 6-mil sheeting. The seams of the 8-mil sheets were sewn with ultraviolet (UV) -resistant thread. UV-resistant ballast bags were used to keep the interior cap material in place, and a continuous row of gravel secured the perimeter of the Temporary Cap. The existing Temporary Cap will be replaced with a permanent pavement cap in conjunction with future redevelopment of the Property. Until the permanent cap is installed, Olin will continue to inspect the Temporary Cap on a quarterly basis, and report its findings to DEP.

#### ***5.3.2 Biocell/Drainage Sand Management***

As presented in Status Report No. 8, the current concentrations of all contaminants in the drainage sand that were detected above laboratory reporting limits, including bis (2-Ethyl Hexyl) phthalate and total petroleum hydrocarbons (TPH), are below applicable Method 1 soil standards and qualify as persistent compounds as defined in DEP Policy No. WSC-04-160, Section 9.3.2.4.

Based on the applicable soil classification of S-3 (the entire Site is currently fenced, and is generally inaccessible to the public), consistent with DEP Policy No. WSC-04-160, it is our opinion that the levels of COCs in soil in the Biocell sand supports a finding that it is categorically infeasible to achieve or approach background for persistent compounds in soil located in an area classified as S-3. Olin has therefore proposed to reuse the drainage sand on-Property, either in place or as upland fill material for future redevelopment of the northern portion of the Property. Upon reuse of the drainage sand, the Biocell area will be restored by removing any visible sidewall liner material, perforating the remaining bottom liner to restore hydrologic conditions, spreading the perimeter topsoil berms as a uniform layer over the Biocell footprint, and seeding the disturbed area to restore the previous grassy cover.

### ***5.3.3 Wetland Permits***

Four wetland-related permits associated with the implementation of the remedial work authorized by this RAM contain ongoing monitoring and administrative requirements. The status of remaining permit obligations related to this RAM is addressed below:

- DEP 401 Water Quality Certification. In accordance with proposals made by Olin in obtaining the 401 Water Quality Certification for the remedial work performed under this RAM, Olin has submitted a draft Declaration of Restrictive Covenant (DRC) to restrict development on the part of the Property south of the South Ditch, except as may be required to perform remediation or for operation and maintenance of remedial systems for the 51 Eames Street Site. The draft DRC was submitted to DEP for review and approval, and has been recently approved by DEP. The final DRC will be recorded at the Registry of Deeds.
- USACE 404 Dredging Permit. In accordance with 404 Permit requirements, a copy of the final DRC will be provided to the USACE. Monitoring will be performed in accordance with the required five-year monitoring program for restored wetland areas. Olin anticipates submission of a permit closure request for this permit in 2006.
- WilmCC, OOC, DEP File No. 344-733. A Request for Certificate of Compliance was submitted to the WilmCC on May 7, 2004. The Request for Certificate of Compliance is awaiting action pending submission to the WilmCC of the final DRC, as approved by DEP and recorded by Olin, and information confirming the delineation of post-RAM remediation areas and wetlands boundaries.
- WilmCC, OOC, DEP File No. 344-879. On August 23, 2004, Olin submitted a Request for Certificate of Compliance to the WilmCC for the OOC authorizing the remedial work adjacent to the Central Pond wetland (DEP File No. 344-879). The Request for Certificate of Compliance will be considered by the WilmCC at the next public meeting on October 6, 2004.

### ***5.3.4 Post-Construction Monitoring***

In August 2001, as part of Status Report No. 2, a PCMP was proposed and subsequently approved by DEP to monitor the impact of response actions at the Property on groundwater, surface water, and sediment at and adjacent to the Property. In Status Report No. 8, Olin proposed to continue the PCMP, with minor modifications, following the submittal of the RAM Completion Statement. Results of the PCMP will be reported to DEP semiannually unless a modification to the PCMP reporting schedule is approved by DEP. A summary of the current PCMP activities is presented in Table 2 of Status Report No. 8.

## 6. DEVIATIONS FROM THE RAM PLAN AND OTHER APPROVALS

Minor deviations from the Part 2 RAM Plan and subsequent modifications have been reported in the RAM status reports listed in Table 1. It is my opinion that the previously reported deviations are not significant, and have not affected the integrity of the RAM activities.

It is my therefore my opinion that the activities described in this report and in previous status reports related to this RAM, were performed in substantial accordance with the RAM Plan, subsequent modifications, and the conditions of approval established by DEP.

## 7. RAM COMPLETION STATEMENT

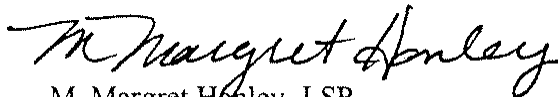
A summary of the RAM Plan objectives and DEP requirements for the implementation of the RAM are summarized in Table 1. The extent to which these objectives and requirements were met, and the status report in which relevant information is presented, is also included in Table 1.

Based on the information presented the referenced status reports and on the information presented herein, it is my opinion that the goals of the CRAM have been met. It is my further opinion that this RAM Status Report and Completion Statement conforms to the general requirements for a RAM Completion Statement set forth in the MCP (310 CMR 40.0446).

Please call Steve Morrow of Olin (423.336.4511) if you have any questions regarding the information presented in this letter.

Very truly yours,

GEI CONSULTANTS, INC.



M. Margret Hanley, LSP  
LSP of Record

MMH/LJW:lek

Enclosures:

Table

1. Summary of RAM Plans, Modifications, and Status Reports

Figures

1. Locus Map
2. Site Plan

Appendices

- A. DEP RAM Transmittal Form
- B. Bills of Lading for Cap Drum Contents and 2004 Lake Poly Soil

c: Tom Kahl, GEI  
Eric Axelrod, MACTEC  
Steve Morrow, Olin  
Curt Richards, Olin  
Greg Erikson, Wilmington Board of  
Health

Christine Stewart, Wilmington Memorial  
Library  
Michael Cairn, Wilmington Town Manager  
Jack Fralick, Woburn Board of Health  
John Curran, Woburn Mayor

## TABLES

Table 1

## Summary of RAM Plans, Modifications and Status Reports

## Construction-Related RAM Completion Statement

Olin Corporation

51 Eames Street

Wilmington, MA

Report / Modification	Date	Objective/Content	DEP Approval Date	DEP Approval Conditions	Notes
Part 1 RAM Plan	1/1/00	Submit a Warehouse Development Plan, a FSC, FRA, and FFS.	6/26/00	Analysis of post-excavation soil samples. A level of NSR must be achieved at Plant B prior to occupation of proposed building. The drum removal RAM must be completed prior to Property development.	DEP Conditional Approval was included in Status Report No. 1.
Part 2 RAM Plan	7/24/00	Presented plan for excavation, treatment, and reuse or disposal of contaminated soil and sediment, and the construction of a soil-clay subsurface containment wall and cap to control the migration of on-property DAPL.	8/9/00	After biotreatment and final disposition of contaminated sediments, collect confirmatory samples from the Biocell on a 25-foot grid. Staff gauges, wells, and piezometers must be replaced if destroyed during construction. Add monitoring wells located in the equalization window to the quarterly groundwater monitoring program. Sample multilevel piezometer MP-1 annually. Collect surface water samples from the South Ditch and East Ditch monthly.	DEP Conditional Approval was included in Status Report No. 1.
RAM Plan Modification No. 1	9/12/00	Request approval to perform bedrock blasting to construct the storm water detention pond.	9/28/00	No conditions.	Details of the blasting and a copy of DEP Conditional Approval were provided in Status Report No. 1.
RAM Plan Modification No. 2	10/5/00	Request approval to establish sediment excavation cleanup criteria and redefine the proposed sediment excavation limits for the On-Property West Ditch and West Ditch wetland.	11/9/00	No conditions.	Details of sediment excavation in these areas and a copy of DEP Conditional Approval were presented in Status Report No. 1.
RAM Plan Modification No. 3	10/24/00	Request approval to excavate three locations of significant soil contamination (Hot Spots). The locations and associated soil contamination are Lake Poly-1, A8CW-1, and RSO-6.	11/2/00		Details of the excavations and a copy of DEP Conditional Approval were presented in Status Report No. 1.

Table 1

## Summary of RAM Plans, Modifications and Status Reports

## Construction-Related RAM Completion Statement

Olin Corporation

51 Eames Street

Wilmington, MA

Report / Modification	Date	Objective/Content	DEP Approval Date	DEP Approval Conditions	Notes
Part 2 RAM Status Report No. 1	12/27/00	Summarized response actions performed as part of the Part 2 Construction RAM for the period 8/7/00 through 12/9/00. Provided copies of DEP conditional approvals for RAM Modifications 1, 2, and 3.	NA	NA	NA
RAM Plan Modification No. 4	4/18/01	Requested approval to reuse the approximately 2,700 cy of topsoil stripped from the Containment Area to restore aquatic and non-aquatic areas of the Property that were disturbed during the RAM activities.			The topsoil was not re-used and remains stockpiled at the Property. A copy of the original Modification No. 4 was included in Status Report No. 2. See Addendum to RAM Modification No. 4, dated 11/9/01.
RAM Plan Modification No. 5	4/20/01	Request for an insignificant change to the weir design.	5/1/01	No conditions. Verbally approved.	Details and a copy of the request were provided in Status Report No. 2.
RAM Plan Modification No. 6	4/27/01	Request approval to dispose of approximately 3,460 cy of excavated sediment at an off-site landfill, in lieu of on-property treatment and reuse.	5/1/01	No conditions. Verbally approved.	The sediment was transported offsite as detailed in Status Report No. 2. A copy of the request was included in Status Report No. 2.
RAM Plan Modification No. 7	5/14/01	Request approval to increase the estimated volume of excavated materials from 6,000 to 10,800 cy	5/1/01	No conditions. Verbally approved.	The total volume of material that has been excavated and transported offsite during the RAM activities to date is 7,850 cy, as summarized in Status Report No. 8 and in this Completion Report.

Table 1

## Summary of RAM Plans, Modifications and Status Reports

## Construction-Related RAM Completion Statement

Olin Corporation

51 Eames Street

Wilmington, MA

Report / Modification	Date	Objective/Content	DEP Approval Date	DEP Approval Conditions	Notes
RAM Plan Modification No. 8	6/12/01	Requested approval to collect and analyze soil and groundwater samples to further delineate the historical limits of the Former Lake Poly Area. Approval to excavate up to 2,600 cy of the Former Lake Poly materials was also requested.	6/19/01	No conditions. Verbally approved.	The investigations took place in 8/01. Details of the 2001 investigations were presented to DEP in an Interim Status Report dated 10/12/01.
Part 2 RAM Status Report No. 2	8/28/01	Summarized response actions performed as part of the Part 2 Construction RAM for the period 12/00 through 7/01. Provided copies of RAM Modification Requests 4 through 8. Presented the PCMP.	10/5/01	Approval for the PCMP.	DEP Conditional approval of the PCMP was included in Status Report No. 3.
RAM Plan Modification No. 9	10/9/01	Request approval to perforate the liner of the Biocell and leave the sand in place.	11/9/01	DEP reviewed the modification and requested additional sampling of the water in the Biocell and in surrounding groundwater.	The water quality sampling was conducted in 3/02, and the results were submitted to DEP as Addendum to Modification No. 9.
Addendum to RAM Plan Modification No. 4	11/9/01	Addendum to Modification No. 4 was submitted to DEP on 11/9/01, and provided ecological risk potential of using average soil stockpile concentrations to supplement the original request to re-use the topsoil excavated during the RAM.	2/2/03	The topsoil can be used in upland areas.	The topsoil was not re-used and remains stockpiled at the Property.

Table 1

## Summary of RAM Plans, Modifications and Status Reports

## Construction-Related RAM Completion Statement

Olin Corporation

51 Eames Street

Wilmington, MA

Report / Modification	Date	Objective/Content	DEP Approval Date	DEP Approval Conditions	Notes
Addendum to RAM Plan Modification No. 9	6/3/02	Provide chemical data for the sampling of surface water in the Biocell and surrounding groundwater and proposed penetrating the Biocell liner and leaving the stockpiled drainage sand in place.	6/15/02	Provide data that shows that the contaminant concentrations in the drainage sand have been reduced to background.	The Biocell liner was penetrated in 7/02 and 12/02 to allow precipitation detained by the Biocell liner to infiltrate to groundwater. The drainage sand remains stockpiled in the Biocell and has been sampled on an annual basis to monitor the ongoing natural attenuation of organic contaminants in the sand. DEP approval was included in Status Report No. 5. For most recent evaluation of Biocell soil and recommendations for future use see RAM Status Report No. 8.
Part 2 RAM Status Report No. 3	2/13/02	Summarize response actions performed as part of the Part 2 Construction RAM for the period 8/01 through 12/01. Provided DEP approval for the PCMP.	NA	NA	NA
Part 2 RAM Status Report No. 4	7/31/02	Summarize response actions performed as part of the Part 2 Construction RAM for the period 1/02 through 6/02.	NA	NA	NA
RAM Plan Modification No. 10	7/17/02	SOW for remedial excavation of oil-contaminated soil along the eastern bank of Central Pond.	8/5/02	No conditions.	DEP approval included in Status Report No. 5. Excavation took place in the fall of 2003 and was detailed in Status Report No. 7.
RAM Plan Modification No. 11	11/18/02	Presented proposed improvements to the Temporary Cap.	11/21/02	No conditions.	DEP approval included in Status Report No. 5. Temporary Cap improvements were conducted in the spring of 2003 and details were included in Status Report No. 6.
Part 2 RAM Status Report No. 5	1/31/03	Summarize response actions performed as part of the Part 2 Construction RAM for the period 7/02 through 12/02 and provide DEP approval for Addendum to Modification No. 9 and for Modification Nos. 10 and 11.	NA	NA	NA

Table 1

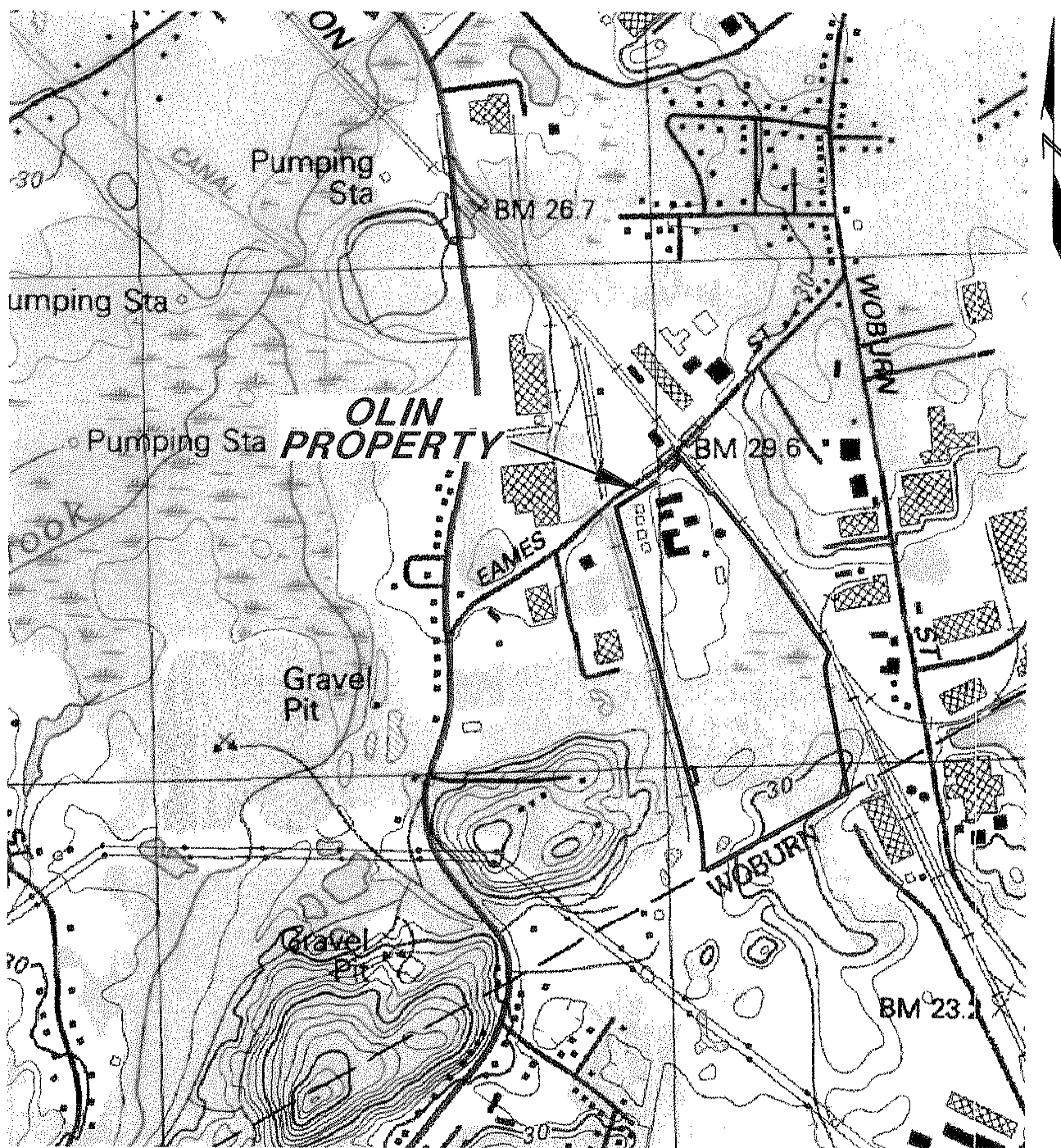
**Summary of RAM Plans, Modifications and Status Reports**  
**Construction-Related RAM Completion Statement**  
**Olin Corporation**  
**51 Eames Street**  
**Wilmington, MA**

Report / Modification	Date	Objective/Content	DEP Approval Date	DEP Approval Conditions	Notes
Addendum to RAM Plan Modification No. 8	8/28/03	Additional Investigation in the Former Lake Poly Area. Modifications to the SOW were submitted on 11/21/03.	11/7/03 and 12/12/03	No conditions.	The DEP approvals were included in Status Report No. 7. The Lake Poly excavation was completed in 6/04, and details were presented in Status Report No. 8.
Part 2 RAM Status Report No. 6	9/10/03	Summarize response actions performed as part of the Part 2 Construction RAM for the period 1/03 through 6/03.	NA	NA	NA
Part 2 RAM Status Report No. 7	2/26/04	Summarize response actions performed as part of the Part 2 Construction RAM for the period 7/03 through 12/03. Provide DEP approval for Addendum to Modification No. 8.	NA	NA	NA
Part 2 RAM Status Report No. 8	9/7/04	Summarize response actions performed as part of the Part 2 Construction RAM for the period 7/00 through 7/04.	NA	NA	NA

**General Notes:**

1. cy = cubic yards
2. DAPL = dense aqueous phase liquid
3. DEP = Massachusetts Department of Environmental Protection
4. FFS = Focused Feasibility Study
5. FRA = Focused Risk Assessment (
6. FSC = Focused Site Characterization
7. NA = Not Applicable
8. NSR = No Significant Risk
9. PCMP = Post-Construction Monitoring Plan
10. RAM = Release Abatement Measure
11. SOW = Scope of Work

## FIGURES



0 500 1000 2000 3000  
SCALE, FEET

This Map Image provided by MassGIS is taken from U.S.G.S. Topographic 7.5 X 15 Minute Series Reading, MA Quadrangle, 1987. Datum is National Geodetic Vertical Datum (NGVD). Contour Interval is 3 Meters.



Part 2 Construction-Related RAM  
Completion Statement

Olin Corporation  
51 Eames Street, Wilmington, MA



Project 97598

LOCUS MAP

October 2004

Figure 1

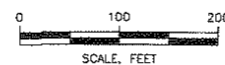


# **LEGEND:**

- EXISTING CONTOURS (FT., NGVD)
- - - WETLANDS BOUNDARY DELINEATED DECEMBER 2003
- APPROXIMATE DITCH/POND WATERLINE
- STREAM
- - - PROPOSED LIMITS OF SEDIMENT EXCAVATION
- ACTUAL LIMITS OF SEDIMENT EXCAVATION
- ⊗ SOIL "HOT SPOT" EXCAVATIONS
- ⊕ GROUNDWATER MONITORING WELL / PIEZOMETER

## **NOTES:**

1. BASE PLAN PROVIDED BY DANA F. PERKINS, INC., 2001 AND 2003.



Part 2 Construction-Related RAM  
Completion Statement

Olin Corporation  
51 Eames Street, Wilmington, MA



Project 97598

SITE PLAN AND WORK  
COMPLETED THROUGH  
SEPTEMBER 2004

October 2004

Figure G1

# APPENDIX A



Massachusetts Department of Environmental Protection  
Bureau of Waste Site Cleanup

BWSC106

RELEASE ABATEMENT MEASURE (RAM)  
TRANSMITTAL FORM

Pursuant to 310 CMR 40.0444 - 0446 (Subpart D)

Release Tracking Number

3.0 - 0471

A. SITE LOCATION:

1. Site Name/Location Aid: Olin Corporation

2. Street Address: 51 Eames Street

3. City/Town: Wilmington

4. ZIP Code: 01887-3393

☐ 5. Check here if a Tier Classification Submittal has been provided to DEP for this disposal site.

☒ a. Tier 1A ☐ b. Tier 1B ☐ c. Tier 1C ☐ d. Tier 2

6. If a Tier I Permit has been issued, provide Permit Number: 83004

B. THIS FORM IS BEING USED TO: (check all that apply)

1. List Submittal Date of Initial RAM Written Plan (if previously submitted): 08/08/2000 (MM/DD/YYYY)

☐ 2. Submit an Initial Release Abatement Measure (RAM) Plan.

☐ a. Check here if this RAM Plan received previous oral approval from DEP as a continuation of a Limited Removal Action (LRA).

b. List Date of Oral Approval: \_\_\_\_\_

☐ 3. Submit a Modified RAM Plan of a previously submitted written RAM Plan.

☒ 4. Submit a RAM Status Report.

☒ 5. Submit a RAM Completion Statement.

☐ 6. Submit a Revised RAM Completion Statement.

7. Provide Additional RTNs:

☐ a. Check here if this RAM Submittal covers additional Release Tracking Numbers (RTNs). RTNs that have been previously linked to a Primary Tier Classified RTN do not need to be listed here. This section is intended to allow a RAM to cover more than one unclassified RTN and not show permanent linkage to a Primary Tier Classified RTN.

b. Provide the additional Release Tracking Number(s) covered by this RAM Submittal.

☐ -  ☐ -

(All sections of this transmittal form must be filled out unless otherwise noted above)





Massachusetts Department of Environmental Protection  
Bureau of Waste Site Cleanup

BWSC106

RELEASE ABATEMENT MEASURE (RAM)  
TRANSMITTAL FORM

Pursuant to 310 CMR 40.0444 - 0446 (Subpart D)

Release Tracking Number

3.0 - 0471

C. RELEASE OR THREAT OF RELEASE CONDITIONS THAT WARRANT RAM:

1. Identify Media Impacted and Receptors Affected: (check all that apply)

- ☐ a. Air ☐ b. Basement ☐ c. Critical Exposure Pathway ☒ d. Groundwater ☐ e. Residence  
☐ f. Paved Surface ☐ g. Private Well ☐ h. Public Water Supply ☐ i. School ☒ j. Sediments  
☐ k. Soil ☐ l. Storm Drain ☒ m. Surface Water ☐ n. Unknown ☒ o. Wetland ☐ p. Zone 2  
☐ q. Others Specify: \_\_\_\_\_

2. Identify all sources of the Release or Threat of Release, if known: (check all that apply)

- ☐ a. Above-ground Storage Tank (AST) ☐ b. Boat/Vessel ☐ c. Drums ☐ d. Fuel Tank  
☐ e. Pipe/Hose/Line ☐ f. Tanker Truck ☐ g. Transformer ☐ h. Under-ground Storage Tank (UST)  
☐ i. Vehicle ☒ j. Others Specify: Historical Discharge of Wastewater

3. Identify Oils and Hazardous Materials Released: (check all that apply)

- ☐ a. Oils ☐ b. Chlorinated Solvents ☒ c. Heavy Metals  
☐ d. Others Specify: Chromium, Ammonia, other organic / inorganic compounds

D. DESCRIPTION OF RESPONSE ACTIONS: (check all that apply, for volumes list cumulative amounts)

- |  |   |
|--|---|
| <input type="checkbox"/> 1. Assessment and/or Monitoring Only                | <input checked="" type="checkbox"/> 2. Temporary Covers or Caps             |
| <input type="checkbox"/> 3. Deployment of Absorbent or Containment Materials | <input type="checkbox"/> 4. Temporary Water Supplies                        |
| <input type="checkbox"/> 5. Structure Venting System                         | <input type="checkbox"/> 6. Temporary Evacuation or Relocation of Residents |
| <input type="checkbox"/> 7. Product or NAPL Recovery                         | <input checked="" type="checkbox"/> 8. Fencing and Sign Posting             |
| <input checked="" type="checkbox"/> 9. Groundwater Treatment Systems         | <input type="checkbox"/> 10. Soil Vapor Extraction                          |
| <input type="checkbox"/> 11. Bioremediation                                  | <input type="checkbox"/> 12. Air Sparging                                   |
| <input checked="" type="checkbox"/> 13. Excavation of Contaminated Soils     |   |

- ☐ a. Re-use, Recycling or Treatment ☐ i. On Site Estimated volume in cubic yards \_\_\_\_\_  
☒ ii. Off Site Estimated volume in cubic yards 600 cubic yards

ii. Receiving Facility: Turnkey Landfill Town: Rochester State: NH

ii. Receiving Facility: \_\_\_\_\_ Town: \_\_\_\_\_ State: \_\_\_\_\_

iii. Describe: \_\_\_\_\_





Massachusetts Department of Environmental Protection  
Bureau of Waste Site Cleanup

BWSC106

RELEASE ABATEMENT MEASURE (RAM)  
TRANSMITTAL FORM

Release Tracking Number

3.0 - 0471

Pursuant to 310 CMR 40.0444 - 0446 (Subpart D)

D. DESCRIPTION OF RESPONSE ACTIONS (cont.): (check all that apply, for volumes list cumulative amounts)

- ☐ b. Store ☐ i. On Site Estimated volume in cubic yards \_\_\_\_\_  
☐ ii. Off Site Estimated volume in cubic yards \_\_\_\_\_

    iia. Receiving Facility: \_\_\_\_\_ Town: \_\_\_\_\_ State: \_\_\_\_\_

    iib. Receiving Facility: \_\_\_\_\_ Town: \_\_\_\_\_ State: \_\_\_\_\_

☐ c. Landfill

- ☐ i. Cover Estimated volume in cubic yards \_\_\_\_\_

    Receiving Facility: \_\_\_\_\_ Town: \_\_\_\_\_ State: \_\_\_\_\_

- ☐ ii. Disposal Estimated volume in cubic yards \_\_\_\_\_

    Receiving Facility: \_\_\_\_\_ Town: \_\_\_\_\_ State: \_\_\_\_\_

☒ 14. Removal of Drums, Tanks or Containers:

    a. Describe Quantity and Amount: One Drum (55 gallons) non-hazardous solid waste

    b. Receiving Facility: CMW Chemical Services Town: Model City State: NY

    c. Receiving Facility: \_\_\_\_\_ Town: \_\_\_\_\_ State: \_\_\_\_\_

☐ 15. Removal of Other Contaminated Media:

    a. Specify Type and Volume: \_\_\_\_\_  
    \_\_\_\_\_

    b. Receiving Facility: \_\_\_\_\_ Town: \_\_\_\_\_ State: \_\_\_\_\_

    c. Receiving Facility: \_\_\_\_\_ Town: \_\_\_\_\_ State: \_\_\_\_\_

☐ 16. Other Response Actions:

    Describe: \_\_\_\_\_  
    \_\_\_\_\_

☐ 17. Use of Innovative Technologies:

    Describe: \_\_\_\_\_





Massachusetts Department of Environmental Protection  
Bureau of Waste Site Cleanup

BWSC106

RELEASE ABATEMENT MEASURE (RAM)  
TRANSMITTAL FORM

Release Tracking Number

3.0 - 0471

Pursuant to 310 CMR 40.0444 - 0446 (Subpart D)

E. LSP SIGNATURE AND STAMP :

I attest under the pains and penalties of perjury that I have personally examined and am familiar with this transmittal form, including any and all documents accompanying this submittal. In my professional opinion and judgment based upon application of (i) the standard of care in 309 CMR 4.02(1), (ii) the applicable provisions of 309 CMR 4.02(2) and (3), and 309 CMR 4.03(2), and (iii) the provisions of 309 CMR 4.03(3), to the best of my knowledge, information and belief,

> if Section B of this form indicates that a **Release Abatement Measure Plan** is being submitted, the response action(s) that is (are) the subject of this submittal (i) has (have) been developed in accordance with the applicable provisions of M.G.L. c. 21E and 310 CMR 40.0000, (ii) is (are) appropriate and reasonable to accomplish the purposes of such response action(s) as set forth in the applicable provisions of M.G.L. c. 21E and 310 CMR 40.0000 and (iii) comply(ies) with the identified provisions of all orders, permits, and approvals identified in this submittal;

> if Section B of this form indicates that a **Release Abatement Measure Status Report** is being submitted, the response action(s) that is (are) the subject of this submittal (i) is (are) being implemented in accordance with the applicable provisions of M.G.L. c. 21E and 310 CMR 40.0000, (ii) is (are) appropriate and reasonable to accomplish the purposes of such response action(s) as set forth in the applicable provisions of M.G.L. c. 21E and 310 CMR 40.0000 and (iii) comply(ies) with the identified provisions of all orders, permits, and approvals identified in this submittal;

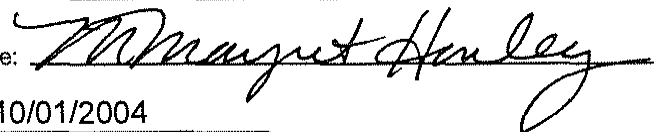
> if Section B of this form indicates that a **Release Abatement Measure Completion Statement** is being submitted, the response action(s) that is (are) the subject of this submittal (i) has (have) been developed and implemented in accordance with the applicable provisions of M.G.L. c. 21E and 310 CMR 40.0000, (ii) is (are) appropriate and reasonable to accomplish the purposes of such response action(s) as set forth in the applicable provisions of M.G.L. c. 21E and 310 CMR 40.0000 and (iii) comply(ies) with the identified provisions of all orders, permits, and approvals identified in this submittal;

I am aware that significant penalties may result, including, but not limited to, possible fines and imprisonment, if I submit information which I know to be false, inaccurate or materially incomplete.

1. LSP #: 8494

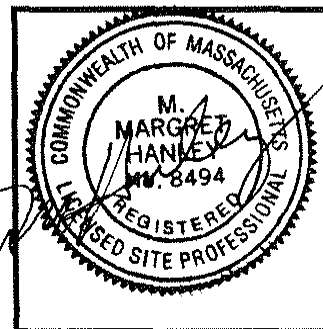
2. First Name: Margret 3. Last Name: Hanley

4. Telephone: (617) 330-2800 5. Ext.: \_\_\_\_\_ 6. FAX: \_\_\_\_\_

7. Signature: 

8. Date: 10/01/2004

9. LSP Stamp:





Massachusetts Department of Environmental Protection  
Bureau of Waste Site Cleanup

BWSC106

RELEASE ABATEMENT MEASURE (RAM)  
TRANSMITTAL FORM

Pursuant to 310 CMR 40.0444 - 0446 (Subpart D)

Release Tracking Number

3.0 - 0471

F. PERSON UNDERTAKING RAM:

1. Check all that apply: ☐ a. change in contact name ☐ b. change of address ☐ c. change in the person undertaking response actions
2. Name of Organization: Olin Corporation
3. Contact First Name: Stephen 4. Last Name: Morrow P.E.
5. Street: 1186 Lower River Road 6. Title: Principal Environmental Specialist
7. City/Town: Charleston 8. State: TN 9. ZIP Code: 37310-0248
10. Telephone: (423) 336-4511 11. Ext.:  12. FAX:

G. RELATIONSHIP TO RELEASE OR THREAT OF RELEASE OF PERSON UNDERTAKING RAM:

- ☒ 1. RP or PRP ☒ a. Owner ☐ b. Operator ☐ c. Generator ☐ d. Transporter  
☐ e. Other RP or PRP Specify:
- ☐ 2. Fiduciary, Secured Lender or Municipality with Exempt Status (as defined by M.G.L. c. 21E, s. 2)
- ☐ 3. Agency or Public Utility on a Right of Way (as defined by M.G.L. c. 21E, s. 5(j))
- ☐ 4. Any Other Person Undertaking RAM Specify Relationship:

H. REQUIRED ATTACHMENT AND SUBMITTALS:

- ☐ 1. Check here if any Remediation Waste, generated as a result of this RAM, will be stored, treated, managed, recycled or reused at the site following submission of the RAM Completion Statement. You must submit a Phase IV Remedy Implementation Plan along with the appropriate transmittal form (BWSC108).
- ☒ 2. Check here if the Response Action(s) on which this opinion is based, if any, are (were) subject to any order(s), permit(s) and/or approval(s) issued by DEP or EPA. If the box is checked, you MUST attach a statement identifying the applicable provisions thereof.
- ☒ 3. Check here to certify that the Chief Municipal Officer and the Local Board of Health have been notified of the implementation of a Release Abatement Measure.
- ☐ 4. Check here if any non-updatable information provided on this form is incorrect, e.g. Release Address/Location Aid. Send corrections to the DEP Regional Office.
- ☐ 5. If a RAM Compliance Fee is required for this RAM, check here to certify that a RAM Compliance Fee was submitted to DEP, P. O. Box 4062, Boston, MA 02211.
- ☒ 6. Check here to certify that the LSP Opinion containing the material facts, data, and other information is attached.





Massachusetts Department of Environmental Protection  
Bureau of Waste Site Cleanup

BWSC106

RELEASE ABATEMENT MEASURE (RAM)  
TRANSMITTAL FORM

Release Tracking Number

3 - 0471

Pursuant to 310 CMR 40.0444 - 0446 (Subpart D)

I. CERTIFICATION OF PERSON UNDERTAKING RAM:

1. I, STEVE MARKOW, attest under the pains and penalties of perjury (i) that I have personally examined and am familiar with the information contained in this submittal, including any and all documents accompanying this transmittal form, (ii) that, based on my inquiry of those individuals immediately responsible for obtaining the information, the material information contained in this submittal is, to the best of my knowledge and belief, true, accurate and complete, and (iii) that I am fully authorized to make this attestation on behalf of the entity legally responsible for this submittal. I/the person or entity on whose behalf this submittal is made am/is aware that there are significant penalties, including, but not limited to, possible fines and imprisonment, for willfully submitting false, inaccurate, or incomplete information.

2. By: Steve Markow  
Signature

3. Title: PRINCIPAL ENV.  
SPECIALIST

4. For: OLIN CORPORATION  
(Name of person or entity recorded in Section F)

10/01/04  
(mm/dd/yyyy)

☐ 5. Check here if the address of the person providing certification is different from address recorded in Section F.

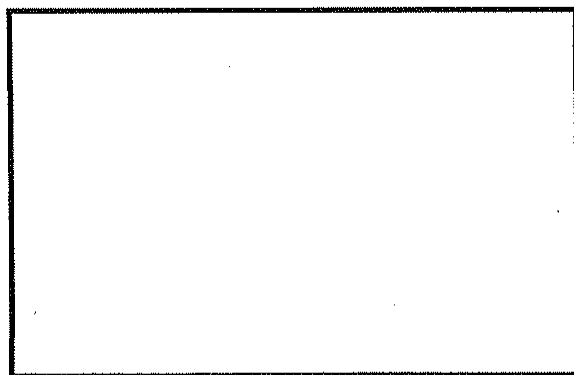
6. Street: \_\_\_\_\_

7. City/Town: \_\_\_\_\_ 8. State: \_\_\_\_\_ 9. ZIP Code: \_\_\_\_\_

10. Telephone: \_\_\_\_\_ 11. Ext.: \_\_\_\_\_ 12. FAX: \_\_\_\_\_

YOU MUST LEGIBLY COMPLETE ALL RELEVANT SECTIONS OF THIS FORM OR DEP MAY  
RETURN THE DOCUMENT AS INCOMPLETE. IF YOU SUBMIT AN INCOMPLETE FORM, YOU  
MAY BE PENALIZED FOR MISSING A REQUIRED DEADLINE.

Date Stamp (DEP USE ONLY:)



# APPENDIX B



Massachusetts Department of Environmental Protection  
Bureau of Waste Site Cleanup

BWSC-012A

BILL OF LADING (pursuant to 310 CMR 40.0030)

Release Tracking Number\*

3 - 0471

A. LOCATION OF SITE OR DISPOSAL SITE WHERE REMEDIATION WASTE WAS GENERATED:

Release Name (optional): 51 Eames Street Site (Olin Corporation)

Street: 51 Eames Street

Location Aid:

City/Town: Wilmington

ZIP Code: 01887-3393

Date/Period of Generation: to: 08/26/03

Additional Release Tracking Numbers Associated with this Bill of Lading:

\* Note: If this Bill of Lading is the result of a Limited Removal Action (LRA) taken prior to Notification, a Release Tracking Number is not needed.

B. PERSON CONDUCTING RESPONSE ACTION ASSOCIATED WITH BILL OF LADING:

Name of Organization: Olin Corporation

Name of Contact: Stephen Morrow

Title: Principal Environmental Specialist

Street: 1186 Lower River Road

City/Town: Charleston

State: TN

ZIP Code: 37310-0248

Telephone: (423) 336-4511

Ext.:

C. RELATIONSHIP TO RELEASE OF PERSON CONDUCTING RESPONSE ACTION ASSOCIATED WITH BILL OF LADING:

☒ RP or PRP Specify: ☒ Owner ☐ Operator ☐ Generator ☐ Transporter Other RP or PRP:

☐ Fiduciary, Secured Lender or Municipality with Exempt Status (as defined by M.G.L. c. 21E, s. 2)

☐ Agency or Public Utility on a Right of Way (as defined by M.G.L. c. 21E, s. 5(j))

☐ Other Person:

If an owner and/or operator is not conducting the response action associated with the Bill of Lading, provide on an attachment the name, contact person, address and telephone number, including any area code and extension, for each, if known.

D. TRANSPORTER OR COMMON CARRIER INFORMATION:

Transporter/Common Carrier Name: Frank's Vacuum Truck Service

Contact Person: Cathy Harrington

Title: Manager (215.428.4356)

Street: 4500 Royal Avenue

City/Town: Niagara Falls

State: NY

ZIP Code: 14303

Telephone: (716) 284-2132

Ext.:

E. RECEIVING FACILITY/TEMPORARY STORAGE LOCATION:

Operator/Facility Name: CWM Chemical Services, LLC

Contact Person: Cathy Harrington

Title: Manager (215.428.4356)

Street: 1550 Balmer Road

City/Town: Model City

State: NY

ZIP Code: 14107

Telephone: (716) 754-8231

Ext.:

Type of Facility:  
(check one)

☐ Asphalt Batch/Cold Mix

☒ Landfill/Disposal

☐ Incinerator

☐ Temporary Storage

☐ Asphalt Batch/Hot Mix

☐ Landfill/Daily Cover

☐ Other:

☐ Thermal Processing

☐ Landfill/Structural Fill

EPA Identification #: NYH1393434

Division of Hazardous Waste/Class A Permit #: n/a

Division of Solid Waste Management Permit #: n/a

Actual/Anticipated Period of Temporary Storage (specify dates if applicable):

to:

Reason for Temporary Storage:

n/a



Massachusetts Department of Environmental Protection  
Bureau of Waste Site Cleanup

BWSC-012A

BILL OF LADING (pursuant to 310 CMR 40.0030)

Release Tracking Number\*

3

0471

E. RECEIVING FACILITY/TEMPORARY STORAGE LOCATION (continued):

Temporary Storage Address:

Street: \_\_\_\_\_

City/Town: \_\_\_\_\_ State: \_\_\_\_\_ ZIP Code: \_\_\_\_\_

F. DESCRIPTION OF REMEDIATION WASTE:

(check all that apply)

- ☐ Contaminated Media (check all that apply): ☐ Soil ☐ Groundwater ☐ Surface Water ☒ Other: \_\_\_\_\_
- ☐ Contaminated Debris (check all that apply): ☐ Vegetation or Organic Debris ☐ Demolition/Construction Waste  
☐ Inorganic Absorbant Materials ☐ Other: \_\_\_\_\_
- ☐ Non-hazardous Uncontainerized Waste (check all that apply): ☐ Non-aqueous Phase Liquid ☐ Other: \_\_\_\_\_
- ☒ Non-hazardous Containerized Waste (check all that apply): ☐ Tank Bottoms/Sludges ☐ Containers ☒ Drums  
☐ Engineered Impoundments ☐ Other: \_\_\_\_\_

Type of Contamination (check all that apply): ☐ Gasoline ☐ Diesel Fuel ☐ #2 Oil ☐ #4 Oil ☐ #6 Oil ☐ Waste Oil  
☐ Kerosene ☐ Jet Fuel ☒ Other: \_\_\_\_\_

Estimated Volume of Materials: Cubic Yards: \_\_\_\_\_ Tons: \_\_\_\_\_ Other: \_\_\_\_\_

Contaminant Source (check one/specify): ☐ Transportation Accident ☐ Underground Storage Tank ☒ Other: Land Disposal

Response Action Associated with Bill of Lading (check one): ☐ Immediate Response Action ☒ Release Abatement Measure

☐ Utility-Related Abatement Measure ☐ Limited Removal Action ☐ Comprehensive Response Action ☐ Other: \_\_\_\_\_

Remediation Waste Characterization Support Documentation attached:

☐ Site History Information ☐ Sampling and Analytical Methods and Procedures ☐ Laboratory Data ☐ Field Screening Data

If supporting documentation is not appended, provide an attachment stating the date and in connection with what document such information was previously submitted to DEP.

G. LICENSED SITE PROFESSIONAL (LSP) OPINION:

Name of Organization: Sleeman Hanley & DiNitto, Inc.

LSP Name: M. Margaret Hanley Title: Principal

Telephone: (617) 330-2800 Ext.: \_\_\_\_\_

I attest under the pains and penalties of perjury that I have personally examined and am familiar with this submittal, including any and all documents accompanying this submittal. In my professional opinion and judgment based upon application of

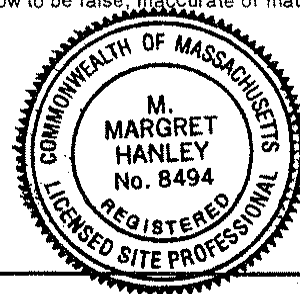
- (i) the standard of care in 309 CMR 4.02(1),  
(ii) the applicable provisions of 309 CMR 4.02(2) and (3), and  
(iii) the provisions of 309 CMR 4.03(5),

to the best of my knowledge, information and belief, the assessment actions undertaken to characterize the Remediation Waste which is (are) the subject of this submittal for acceptance at the facility identified in this submittal comply with the applicable provisions of 310 CMR 40.0000, and such facility is permitted to accept Remediation Waste having the characteristics described in this submittal. I am aware that significant penalties may result, including, but not limited to, possible fines and imprisonment, if I submit information which I know to be false, inaccurate or materially incomplete.

LSP Signature: M. Margaret Hanley Seal:

Date: August 27, 2004

License Number: 8494



**Addendum, to Section F  
BWSC-012A Bill of Lading Form  
Shipment of Drum  
51 Eames Street Site  
Wilmington, MA  
RTN 3-0471**

During the repair of a temporary cap, over a portion of the 51 Eames Street Property, referred to as the Containment Area, a subsurface drum encased within a concrete structure was uncovered. The encased drum was filled with soil at the surface and a white material was observed below the surface soil, possibly calcium sulfate. On August 26, 2003 a composite sample was collected from the full depth of the drum contents and submitted for analysis of VOCs, SVOCs, PCBs/Pesticides, TPH, reactivity, ignitability, metals, and toxic characteristic leaching procedure (TCLP) for chromium. Results of the drum sampling were presented in a Report titled "Part 2 Construction Related Release Abatement Measure, Status Report No. 7, Olin Property, Wilmington, Massachusetts, RTN 3-0471, dated February 24, 2004. The drum contents exhibited no hazardous characteristics and contaminant concentrations were non-detect and/or below SI-GW1 soil criteria. In the above referenced report, Olin proposed to leave the drum and its contents in place.

In a letter to Olin Corporation dated June 8, 2004, the Department required that Olin properly dispose of the drum and its contents at an appropriate off-property disposal facility. MADEP noted that although no hazardous chemicals were identified in the testing that was completed on the drum contents, the drum and its contents must be appropriately disposed of due to the unknown nature of the drum contents, and the potential hazards associated with physical degradation of the drum itself.



Massachusetts Department of Environmental Protection  
Bureau of Waste Site Cleanup

BWSC-012B

BILL OF LADING (pursuant to 310 CMR 40.0030)

Release Tracking Number

SUMMARY SHEET 1 OF 1

3 - 0471

<b>I. LOAD INFORMATION:</b>		Signature of Transporter Representative:		Receiving Facility/Temporary Storage Representative:	
<b>Load 1:</b>		<i>[Signature]</i>			
Date of Shipment: 8-30-04		Time of Shipment: 1050		Date of Receipt:	
1 drum 625 lbs AWP		<input checked="" type="checkbox"/> AM <input type="checkbox"/> PM		Time of Receipt:	
Truck/Tractor Registration:		Trailer Registration (if any):		<input type="checkbox"/> AM <input type="checkbox"/> PM	
86091 PA		AJ 52932-NY		Load Size (cu. yds./tons):	
N.Y.					
<b>Load 2:</b>		Signature of Transporter Representative:		Receiving Facility/Temporary Storage Representative:	
Date of Shipment:		Time of Shipment:		Date of Receipt:	
		<input type="checkbox"/> AM <input type="checkbox"/> PM		Time of Receipt:	
Truck/Tractor Registration:		Trailer Registration (if any):		<input type="checkbox"/> AM <input type="checkbox"/> PM	
				Load Size (cu. yds./tons):	
<b>Load 3:</b>		Signature of Transporter Representative:		Receiving Facility/Temporary Storage Representative:	
Date of Shipment:		Time of Shipment:		Date of Receipt:	
		<input type="checkbox"/> AM <input type="checkbox"/> PM		Time of Receipt:	
Truck/Tractor Registration:		Trailer Registration (if any):		<input type="checkbox"/> AM <input type="checkbox"/> PM	
				Load Size (cu. yds./tons):	
<b>Load 4:</b>		Signature of Transporter Representative:		Receiving Facility/Temporary Storage Representative:	
Date of Shipment:		Time of Shipment:		Date of Receipt:	
		<input type="checkbox"/> AM <input type="checkbox"/> PM		Time of Receipt:	
Truck/Tractor Registration:		Trailer Registration (if any):		<input type="checkbox"/> AM <input type="checkbox"/> PM	
				Load Size (cu. yds./tons):	
<b>Load 5:</b>		Signature of Transporter Representative:		Receiving Facility/Temporary Storage Representative:	
Date of Shipment:		Time of Shipment:		Date of Receipt:	
		<input type="checkbox"/> AM <input type="checkbox"/> PM		Time of Receipt:	
Truck/Tractor Registration:		Trailer Registration (if any):		<input type="checkbox"/> AM <input type="checkbox"/> PM	
				Load Size (cu. yds./tons):	
<b>Load 6:</b>		Signature of Transporter Representative:		Receiving Facility/Temporary Storage Representative:	
Date of Shipment:		Time of Shipment:		Date of Receipt:	
		<input type="checkbox"/> AM <input type="checkbox"/> PM		Time of Receipt:	
Truck/Tractor Registration:		Trailer Registration (if any):		<input type="checkbox"/> AM <input type="checkbox"/> PM	
				Load Size (cu. yds./tons):	
<b>J. LOG SHEET VOLUME INFORMATION:</b>		Total Volume Recorded This Page (cu. yds./tons)			
		Total Carried Forward (cu. yds./tons):			
		Total Carried Forward and This Page (cu. yds./tons):			



Massachusetts Department of Environmental Protection  
Bureau of Waste Site Cleanup

BWSC-012B

BILL OF LADING (pursuant to 310 CMR 40.0030)

Release Tracking Number

SUMMARY SHEET 1 OF 1

3 - 0471

<b>I. LOAD INFORMATION:</b>	
<b>Load 1:</b> Signature of Transporter Representative: <i>[Signature]</i> Date of Shipment: 8-30-04 Time of Shipment: 1050 1 drum 625 lbs <i>AWP</i> Truck/Tractor Registration: 86091 PA N.Y. Trailer Registration (if any): AJ 52932-NY <input checked="" type="checkbox"/> AM <input type="checkbox"/> PM	Receiving Facility/Temporary Storage Representative: <i>[Signature]</i> Date of Receipt: 9/01/04 Time of Receipt: 10:20 <input checked="" type="checkbox"/> AM <input type="checkbox"/> PM Load Size (cu. yds./tons): 1 drum 625 P
<b>Load 2:</b> Signature of Transporter Representative: Date of Shipment: Time of Shipment: <input type="checkbox"/> AM <input type="checkbox"/> PM Truck/Tractor Registration: Trailer Registration (if any):	Receiving Facility/Temporary Storage Representative: Date of Receipt: Time of Receipt: <input type="checkbox"/> AM <input type="checkbox"/> PM Load Size (cu. yds./tons):
<b>Load 3:</b> Signature of Transporter Representative: Date of Shipment: Time of Shipment: <input type="checkbox"/> AM <input type="checkbox"/> PM Truck/Tractor Registration: Trailer Registration (if any):	Receiving Facility/Temporary Storage Representative: Date of Receipt: Time of Receipt: <input type="checkbox"/> AM <input type="checkbox"/> PM Load Size (cu. yds./tons):
<b>Load 4:</b> Signature of Transporter Representative: Date of Shipment: Time of Shipment: <input type="checkbox"/> AM <input type="checkbox"/> PM Truck/Tractor Registration: Trailer Registration (if any):	Receiving Facility/Temporary Storage Representative: Date of Receipt: Time of Receipt: <input type="checkbox"/> AM <input type="checkbox"/> PM Load Size (cu. yds./tons):
<b>Load 5:</b> Signature of Transporter Representative: Date of Shipment: Time of Shipment: <input type="checkbox"/> AM <input type="checkbox"/> PM Truck/Tractor Registration: Trailer Registration (if any):	Receiving Facility/Temporary Storage Representative: Date of Receipt: Time of Receipt: <input type="checkbox"/> AM <input type="checkbox"/> PM Load Size (cu. yds./tons):
<b>Load 6:</b> Signature of Transporter Representative: Date of Shipment: Time of Shipment: <input type="checkbox"/> AM <input type="checkbox"/> PM Truck/Tractor Registration: Trailer Registration (if any):	Receiving Facility/Temporary Storage Representative: Date of Receipt: Time of Receipt: <input type="checkbox"/> AM <input type="checkbox"/> PM Load Size (cu. yds./tons):

J. LOG SHEET VOLUME INFORMATION:

Total Volume Recorded This Page (cu. yds./tons):  
Total Carried Forward (cu. yds./tons):  
Total Carried Forward and This Page (cu. yds./tons):





Massachusetts Department of Environmental Protection  
Bureau of Waste Site Cleanup

BWSC-012C

BILL OF LADING (pursuant to 310 CMR 40.0030)

SUMMARY SHEET

Release Tracking Number

3 - 0471

ONLY COMPLETE ONE COPY OF THIS PAGE AND ATTACH TO THE FINAL COPY OF THE SUMMARY SHEET.

L. ACKNOWLEDGMENT OF RECEIPT OF REMEDIATION WASTE AT RECEIVING FACILITY OR TEMPORARY STORAGE:

Receiving Facility/Temporary Storage Representative (print):

Angela Cadwalader

Title: Environmental Specialist

Signature:

Angela Cadwalader

Date: 9-1-04

M. ACKNOWLEDGMENT OF SHIPMENT AND RECEIPT OF REMEDIATION WASTE BY PERSON  
CONDUCTING RESPONSE ACTION ASSOCIATED WITH THIS BILL OF LADING:

I certify under penalties of law that I have personally examined and am familiar with the information contained in this submittal, including any and all documents accompanying this certification, and that, based on my inquiry of those individuals immediately responsible for obtaining the information, the material information contained in herein is, to the best of my knowledge and belief, true, accurate and complete. I am aware that there are significant penalties, including, but not limited to, possible fines and imprisonment, for willfully submitting false, inaccurate, or incomplete information.

Signature:

Steve Morrow

Date: 9/14/2004

Name of Person (print):

STEVE MORROW



Massachusetts Department of Environmental Protection  
Bureau of Waste Site Cleanup

BWSC-012A

**BILL OF LADING** (pursuant to 310 CMR 40.0030)

Release Tracking Number\*

3 - 0471

**A. LOCATION OF SITE OR DISPOSAL SITE WHERE REMEDIATION WASTE WAS GENERATED:**

Release Name (optional): 51 Eames Street Site (Olin Corporation)

Street: 51 Eames Street

Location Aid: \_\_\_\_\_

City/Town: Wilmington

ZIP Code: 01887-3393

Date/Period of Generation: June 7 2004 to: June 30, 2004

Additional Release Tracking Numbers Associated with this Bill of Lading: \_\_\_\_\_

\* Note: If this Bill of Lading is the result of a Limited Removal Action (LRA) taken prior to Notification, a Release Tracking Number is not needed.

**B. PERSON CONDUCTING RESPONSE ACTION ASSOCIATED WITH BILL OF LADING:**

Name of Organization: Olin Corporation

Name of Contact: Stephen G. Morrow

Title: Principal Environmental Specialist

Street: 1186 Lower River Road

City/Town: Charleston

State: TN

ZIP Code: 37310

Telephone: (423) 336-4511

Ext.: \_\_\_\_\_

**C. RELATIONSHIP TO RELEASE OF PERSON CONDUCTING RESPONSE ACTION ASSOCIATED WITH BILL OF LADING:**

☒ RP or PRP Specify: ☒ Owner ☒ Operator ☒ Generator ☐ Transporter Other RP or PRP: \_\_\_\_\_

☐ Fiduciary, Secured Lender or Municipality with Exempt Status (as defined by M.G.L. c. 21E, s. 2)

☐ Agency or Public Utility on a Right of Way (as defined by M.G.L. c. 21E, s. 5(j))

☐ Other Person: \_\_\_\_\_

If an owner and/or operator is not conducting the response action associated with the Bill of Lading, provide on an attachment the name, contact person, address and telephone number, including any area code and extension, for each, if known.

**D. TRANSPORTER OR COMMON CARRIER INFORMATION:**

Transporter/Common Carrier Name: Sams Transportation

Contact Person: Cathy Harrington,

Title: Manager (215) 428.4356

Street: P.O. Box 241

City/Town: Georgetown,

State: MA

ZIP Code: 01833

Telephone: (888) 352-6689

Ext.: \_\_\_\_\_

**E. RECEIVING FACILITY/TEMPORARY STORAGE LOCATION:**

Operator/Facility Name: Turnkey Landfill (WM Facility)

Contact Person: Cathy Harrington

Title: Manager Rep. (215) 428.4356

Street: 90 Rochester Neck Road

City/Town: Rochester

State: NH

ZIP Code: 03839

Telephone: 603.330.2134

Ext.: \_\_\_\_\_

Type of Facility:  
(check one)

☐ Asphalt Batch/Cold Mix

☒ Landfill/Disposal

☐ Incinerator

☐ Temporary Storage

☐ Asphalt Batch/Hot Mix

☐ Landfill/Daily Cover

☐ Other: \_\_\_\_\_

☐ Thermal Processing

☐ Landfill/Structural Fill

EPA Identification #: \_\_\_\_\_

Division of Hazardous Waste/Class A Permit #: \_\_\_\_\_

Division of Solid Waste Management Permit #: \_\_\_\_\_

Actual/Anticipated Period of Temporary Storage (specify dates if applicable): \_\_\_\_\_

to: \_\_\_\_\_

Reason for Temporary Storage: \_\_\_\_\_



Massachusetts Department of Environmental Protection  
Bureau of Waste Site Cleanup

BWSC-012A

BILL OF LADING (pursuant to 310 CMR 40.0030)

Release Tracking Number\*

3 - 0471

E. RECEIVING FACILITY/TEMPORARY STORAGE LOCATION (continued):

Temporary Storage Address:

Street: \_\_\_\_\_

City/Town: \_\_\_\_\_ State: \_\_\_\_\_ ZIP Code: \_\_\_\_\_

F. DESCRIPTION OF REMEDIATION WASTE:

(check all that apply)

- ☒ Contaminated Media (check all that apply): ☒ Soil ☐ Groundwater ☐ Surface Water ☒ Other: \_\_\_\_\_
- ☒ Contaminated Debris (check all that apply): ☐ Vegetation or Organic Debris ☐ Demolition/Construction Waste  
☐ Inorganic Absorbent Materials ☒ Other: Scrap Metal < 2 cubic yards
- ☐ Non-hazardous Uncontainerized Waste (check all that apply): ☐ Non-aqueous Phase Liquid ☐ Other: \_\_\_\_\_
- ☐ Non-hazardous Containerized Waste (check all that apply): ☐ Tank Bottoms/Sludges ☐ Containers ☐ Drums  
☐ Engineered Impoundments ☐ Other: \_\_\_\_\_

Type of Contamination (check all that apply): ☐ Gasoline ☐ Diesel Fuel ☐ #2 Oil ☐ #4 Oil ☐ #6 Oil ☐ Waste Oil  
☐ Kerosene ☐ Jet Fuel ☒ Other: Chromium, ammonia

Estimated Volume of Materials: Cubic Yards: 600 Tons: \_\_\_\_\_ Other: \_\_\_\_\_

Contaminant Source (check one/specify): ☐ Transportation Accident ☐ Underground Storage Tank ☒ Other: Excavation

Response Action Associated with Bill of Lading (check one): ☐ Immediate Response Action ☒ Release Abatement Measure  
☐ Utility-Related Abatement Measure ☐ Limited Removal Action ☐ Comprehensive Response Action ☐ Other: \_\_\_\_\_

Remediation Waste Characterization Support Documentation attached:

☐ Site History Information ☒ Sampling and Analytical Methods and Procedures ☒ Laboratory Data ☐ Field Screening Data

If supporting documentation is not appended, provide an attachment stating the date and in connection with what document such information was previously submitted to DEP.

G. LICENSED SITE PROFESSIONAL (LSP) OPINION:

Name of Organization: Sleeman, Hanley & DiNitto, Inc.

LSP Name: M. Margaret Hanley Title: Principal

Telephone: (617) 330-2800 Ext.: \_\_\_\_\_

I attest under the pains and penalties of perjury that I have personally examined and am familiar with this submittal, including any and all documents accompanying this submittal. In my professional opinion and judgment based upon application of

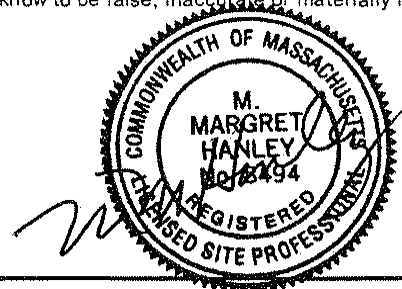
- (i) the standard of care in 309 CMR 4.02(1),  
(ii) the applicable provisions of 309 CMR 4.02(2) and (3), and  
(iii) the provisions of 309 CMR 4.03(5),

to the best of my knowledge, information and belief, the assessment actions undertaken to characterize the Remediation Waste which is (are) the subject of this submittal for acceptance at the facility identified in this submittal comply with the applicable provisions of 310 CMR 40.0000, and such facility is permitted to accept Remediation Waste having the characteristics described in this submittal. I am aware that significant penalties may result, including, but not limited to, possible fines and imprisonment, if I submit information which I know to be false, inaccurate or materially incomplete.

LSP Signature: M. Margaret Hanley Seal: \_\_\_\_\_

Date: September 13, 2004

License Number: 8494





Massachusetts Department of Environmental Protection  
Bureau of Waste Site Cleanup

BWSC-012A

**BILL OF LADING** (pursuant to 310 CMR 40.0030)

Release Tracking Number

3 - 0471

**H. CERTIFICATION OF PERSON CONDUCTING RESPONSE ACTION ASSOCIATED WITH THIS BILL OF LADING:**

I certify under penalties of law that I have personally examined and am familiar with the information contained in this submittal, including any and all documents accompanying this certification, and that, based on my inquiry of those individuals immediately responsible for obtaining the information, the material information contained herein is, to the best of my knowledge and belief, true, accurate and complete. I am aware that there are significant penalties, including, but not limited to, possible fines and imprisonment, for willfully submitting false, inaccurate, or incomplete information.

Signature: Steve Markow

Date: Sept 13, 2004

Name of Person (print): STEVE MARKOW

Addendum to Section F  
BWSC Bill of Lading Form  
Shipment of Lake Poly Soils  
51 Eames Street Site  
Wilmington, MA  
RTN 3-0471

**2004 Lake Poly Excavation and Backfill  
Excavation Summary**

(From: *Appendix D, Part 2 Construction-Related RAM Status Report No. 8*, GEI Consultants, Inc., September 7, 2004)

Between June 7 and 14, 2004, soil with ammonia and chromium concentrations in excess of Upper Concentration Limits (UCLs) was excavated from the former Lake Poly area. The limits of the excavation are shown in Figure D-1.

Surface Soil for Reuse

On June 7, 2004, the top 3 to 4 feet of surface soil consisting of top soil and granular fill was excavated and stockpiled on a polyethylene liner. The top 3 to 4 feet was previously characterized in-situ and was determined to be suitable for reuse as per the Focused Feasibility Study, submitted to DEP in April 2002. Approximately 450 cy of soil was excavated and temporarily stockpiled for re-use.

Subsurface Soil for Disposal

On June 8 and 9, 2004, an additional 4 to 6 feet of soil was excavated and was placed on a polyethylene liner placed over a perimeter hay bale berm to contain potential pore water seepage from saturated soil. The horizontal limits of the deep excavation were extended beyond the proposed excavation limits on the north and east sides to remove visual evidence of Kempore™.

The total depth of the excavation generally ranged from 6 to 9 feet, which corresponds to an elevation of approximately 79 to 80 feet, is the approximate elevation of the top of the local till layer. The southeast corner of the excavation extended approximately 3 feet deeper than the rest of the excavation. Within this section, the till interface was deeper and Kempore™ extended to the depth of the top of till. Approximately 600 cy of subsurface soil was excavated and stockpiled separate from the surface soil.

On June 14, 2004, approximately 30 cy of additional subsurface soil was excavated on the northeast corner of the excavation due to the results of confirmatory sampling for sample LP-C01, which exceeded UCLs for ammonia.

**Confirmatory Sampling**

On June 9, 2004, a total of 12 confirmatory samples were collected. Nine of the samples were sidewall samples (LP-C01 through LP-C08) and one duplicate sample (LP-C07D). The sidewall samples were collected over an approximate 2-foot interval near the bottom of the excavation, which corresponds to the zone of significant subsurface contamination. Three

composite bottom samples, LP-BOT-A, LP-BOT-B, and LP-BOT-D, each made up of four discrete sampling locations, were collected from the bottom of the excavation. Each of the nine sidewall samples and three composite bottom samples were submitted to Severn Trent Laboratories (STL) for chromium and ammonia testing.

Based on laboratory results of the initial round of confirmatory samples, one sample (LP-C01) had ammonia concentrations that exceeded UCLs. LP-C01 was located on the northeast corner of the excavation near railroad tracks. Additional excavation in the area was performed on June 14, 2004. The excavation extended to the existing railroad tracks. One confirmatory sample (LP-C09) was collected at the same depth as LP-C01. The results of the laboratory testing are shown in Table D-1. The second excavation was successful in reducing contaminant concentrations for the former Lake Poly area to below UCLs.

## **Dewatering**

On June 8 and 9, 2004, groundwater was pumped during the excavation activities at a rate ranging from 1 to 20 gallons per minute (gpm) and was held in a fractionation (frac) tank. The groundwater was monitored periodically for pH, specific conductance, temperature, and color prior to entering the tank. The results of the groundwater monitoring are presented on Table D-2. A total of approximately 6,500 gallons of water was pumped while excavating.

After reviewing the groundwater monitoring data, it was determined that the groundwater had similar qualities to the groundwater that was sampled in the monitoring wells in the area and the groundwater was decanted back to the excavation on June 11, 2004.

On June 14, 2004, prior to resuming excavation and backfilling, the groundwater from within the open excavation was pumped back to the frac tanks. The water was pumped at a rate ranging from 25 to 220 gpm and a total of 32,000 gallons of water was pumped. The water was decanted back to the excavation at the end of the day after a filter fabric was placed in the excavation. No further dewatering took place after June 14, 2004.

## **Backfilling**

On June 14, 2004, after dewatering the excavation and after excavating the additional soil on the northeast side of the excavation, a geotextile fabric was placed at the bottom and along the sides of the excavation and was held in place with crushed stone. The geotextile fabric sheets were 16 feet wide and overlapped each other from 5 to 10 feet. An additional 5 to 15 feet of fabric extended past the top banks of the excavation for the purpose of folding it over the crushed stone that was to be used as backfill material.

Crushed stone from Benevento Sand and Gravel of Wilmington, Massachusetts, was delivered to the Site for use in backfilling Lake Poly throughout the day. Dewatering was not conducted during backfilling. After each delivery, the stone was spread throughout the excavation and was tamped in place using the excavator bucket until the level of the groundwater table was reached.

On June 17, 2004, the crushed stone was leveled out across the entire excavation to an approximate depth of 3 feet and was then compacted using a 1-ton vibratory roller making three passes over the stone in cross directions. Approximately 825 tons of crushed stone was used to backfill the excavation to the groundwater level.

A geogrid material was placed directly on top of the compacted stone on the east side of the excavation as requested by the prospective developer for improved structural bearing capacity. It was cut roughly to the shape of the walls of the excavation. The geogrid was 8 feet wide and extended the entire distance of the eastern wall. A second layer of geogrid was placed near the central part of the excavation area overlapping the first layer of geogrid approximately 2 to 3 feet. The second layer was approximately 5 feet short of the north and south ends of the excavation area.

The fabric overlapping the walls of the excavation area was folded over the compacted stone and geogrid material. This fabric covered approximately 5 feet around the perimeter of the excavation area. The remaining area was then covered with additional fabric. The fabric overlapped approximately 3 feet throughout the excavation area.

After all the stone was covered with fabric, the remaining approximate 3 feet of excavated area was backfilled with the stockpiled surface soil originally removed from the top of the excavation. The soil was placed in 6- to 8-inch lifts and was compacted with three passes of a 1-ton vibratory roller and repeated until the top of the excavation area was reached. The contractor then spread the rest of the remaining topsoil over the excavation area and seeded the Lake Poly excavation area and the surrounding disturbed areas.

### **Soil for Off-Site Disposal**

Approximately 600 cy of contaminated subsurface soil was excavated, stockpiled and covered. On July 7, 2004, three composite samples were collected from the stockpile and were submitted to STL for chemical testing of various parameters for disposal. Results of the sampling have been submitted to Turnkey Landfill in Rochester, New Hampshire, and the soil is expected to be shipped off-property for disposal in September 2004. Laboratory testing results along with material shipping records will be submitted to the DEP under separate cover.

*Note: Based on the information summarized above, and in the attached Table D-3, the soil has been classified as a non-hazardous contaminated material, and will be disposed of under the MCP Bill of Lading (BOL) Process.*

MMH:lek

M:\PROJECT\1997\97598 Olin\CORRESP\04\Addendum to Section F.doc

## TABLES

**Table D-1**  
**Lake Poly Confirmatory Samples**  
**Olin Corporation**  
**51 Eames Street**  
**Wilmington, MA**

			Parameter: Units: UCL:	Chromium (mg/kg) 10,000	Ammonia (mg/kg) 10,000
Sample Name	Date Sampled	Depth (ft)			
Sidewall Samples					
LP-C01 (Excavated 6/15/04)	6/9/04	5.5-7.5		610	14,000 J
LP-C02	6/9/04	5-6.5		12	3.6 J
LP-C03	6/9/04	5-7.0		16	64 J
LP-C04	6/9/04	5-7.0		41	46 J
LP-C05	6/9/04	4.5-5.5		24	58 J
LP-C06	6/9/04	4.0-6.0		3,100	4,100 J
LP-C07	6/9/04	4.5-6.5		340	270 J
LP-C07D (Duplicate)	6/9/04	4.5-6.5		460	350 J
LP-C08	6/9/04	5.0-7.0		7,900	41 J
LP-C09	6/15/04	5.5-7.5		30	25 J
Bottom Samples					
LP-BOT-A	6/9/04	Bottom		780	110 J
LP-BOT-B	6/9/04	Bottom		640	2,200 J
LP-BOT-C	6/9/04	Bottom		930	4,700 J

**General Notes:**

1. Laboratory analysis was conducted by Severn Trent Laboratories (STL).
2. Chemical results will be validated by MACTEC Engineering and Consulting, Inc.
3. The sample locations are shown on Figure D1. The ground elevation ranged from 85.65 ft to 88.33 ft.
4. The location of LP-C01 was excavated after being sampled. Sample LP-C09 was collected from the new limit of excavation.
5. Each of the bottom samples were made up of four discrete locations and were composited together in the field. The bottom samples ranged in elevation from 77.28 ft to 80.08 ft.
6. UCL = Upper Concentration Limit sited from the Massachusetts Contingency Plan dated October 1999 with revisions effective June 27, 2003.
7. mg/kg = milligrams per kilogram.


**Qualifying Note:**

- J The result is estimated.

Table D-2  
Lake Poly Excavation  
Water Quality Monitoring  
Olin Corporation  
51 Eames Street  
Wilmington, MA

Date and/or Comment	Time	Temp (F)	ph (st. units)	Specific Conductivity (uS)	Clarity	Flow (gpm)	Cumulative Quantity (gallons)
6/8/04	8:00 AM	64	6.8	300	Cloudy	1	-
	8:30 AM	72	6.7	293	Cloudy	1	-
	10:00 AM	77	6.9	319	Cloudy	1	-
	11:00 AM	79	6.4	285	Cloudy	1	-
	11:15 AM	82	6.51	271	Silty	20	-
	12:00 PM	85	6.67	256	Silty	10	-
	1:00 PM	88	6.72	254	Cloudy	5	437
	1:45 PM	91	6.76	286	Cloudy	5	-
	2:30 PM	89	6.82	294	Cloudy	3	-
	2:55 PM	87	6.72	276	Cloudy	3	785
	8:15 PM	74	6.97	260	Fairly Clear	7	2005
6/9/04	5:20 AM	65	6.99	277	Clear	20	-
	9:45 AM	84	6.85	288	Cloudy	10	-
	10:45 AM	87	6.84	275	Cloudy	5	4800
	11:45 AM	85	6.8	273	Cloudy	10	-
	2:10 PM	80	6.73	270	Cloudy	10	-
	2:50 PM	82	6.75	274	Cloudy	10	6500

General Notes:

1. F = Fahrenheit
2. st. units = standard units
3. uS = 
4. gpm = gallons per minute

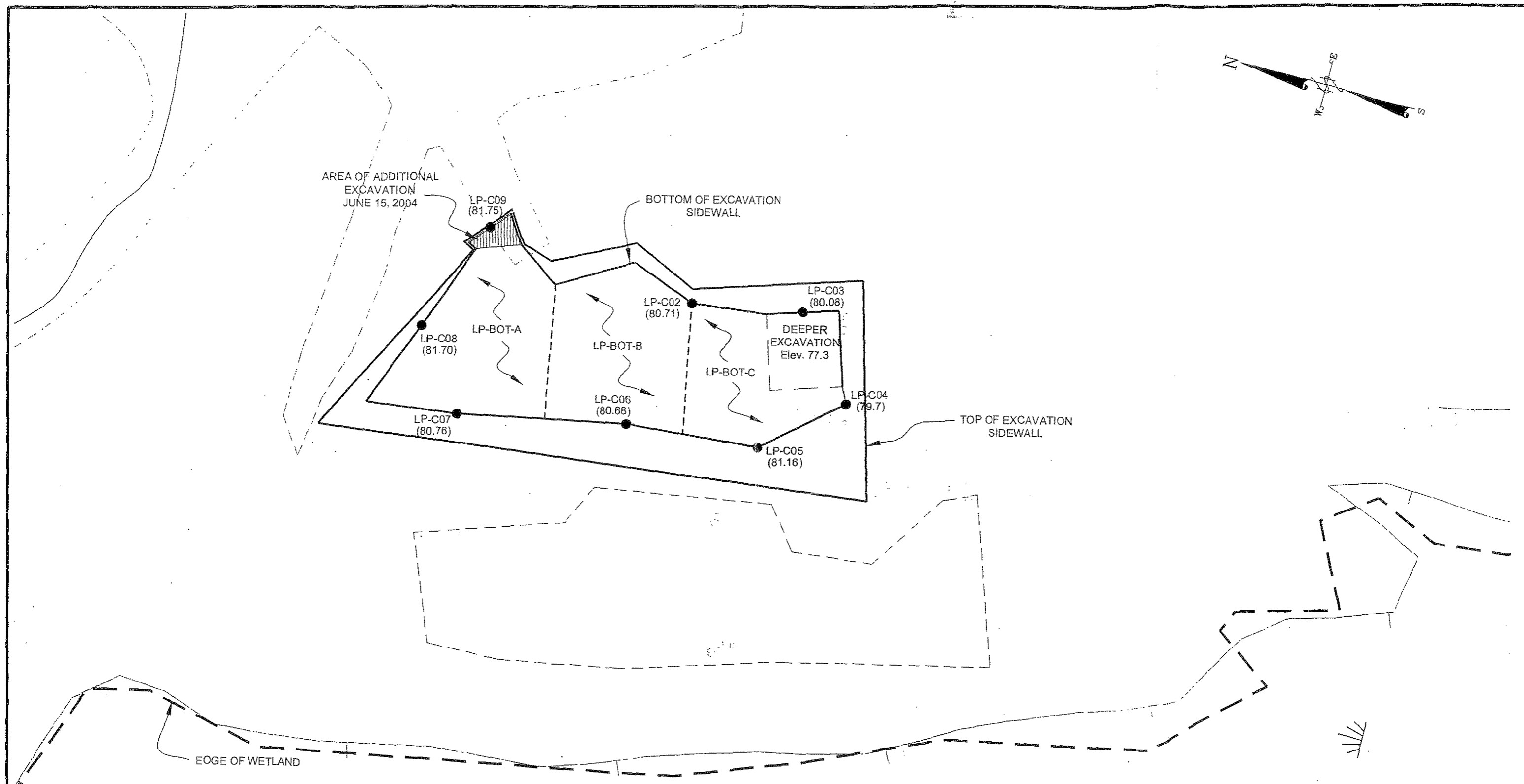
**Table D-3**  
**Chemical Testing Results**  
**Disposal Characterization of Lake Poly Subsurface Soil Stockpile**  
**Olin Corporation**  
**51 Eames Street**  
**Wilmington, MA**

Sample Identification: Date Collected:			LP-DIS-1 7/7/04	LP-DIS-2 7/7/04	LP-DIS-3 7/7/04
Parameter Name	Analysis Method	Units			
Volatile Organic Compounds (VOCs)	SW846 8260B	mg/kg			
p-Isopropyl Toluene			< 0.045	< 0.040	0.130
1,2-Dichlorobenzene			< 0.045	0.086	0.069
1,4-Dichlorobenzene			< 0.045	0.130	0.077
1,2,3-Trichlorobenzene			< 0.045	< 0.040	0.049
1,2,4-Trichlorobenzene			< 0.045	0.052	0.064
2,4,4-Trimethyl-1-pentene			0.920	0.460	0.370
2,4,4-Trimethyl-2-Pentene			0.300	0.380	0.460
Semivolatile Organic Compounds (SVOCs)	SW846 8270C	mg/kg			
Di-n-butyl phthalate			< 3.7	5.3	5.50
N-Nitrosodiphenylamine			1400	11	210
Polychlorinated Biphenyls (PCBs)	SW846 8082A	mg/kg	ND	ND	ND
Pesticides	SW846 8081A	mg/kg			
Endosulfan II			0.13	<0.0097	0.051
Total Petroleum Hydrocarbons (TPH)	SW846 8015B(M)	mg/kg			
Diesel Range Organics (DRO), total			3100	3,000	1900
Metals		mg/kg			
Arsenic, Total	SW846 6010B		3.30	3.90	3.5
Barium, Total	SW846 6010B		26.00	20.00	24
Cadmium, Total	SW846 6010B		< 0.23	< 0.11	< 0.14
Chromium, Total	SW846 6010B		1800	500.00	690
Lead, Total	SW846 6010B		15	5.80	7.2
Mercury, Total	SW846 7471A		3	0.18	0.22
Selenium, Total	SW846 6010B		< 1.1	< 0.57	< 0.72
Silver, Total	SW846 6010B		< 1.1	< 0.57	< 0.72
TCLP Chromium	SW846 6010B	mg/L	0.12	0.05	0.065
Inorganics/Physical					
Corrosivity	SW846 9045C	pH	7.91	7.36	7.78
Flash Point	EPA 1010	degrees F	>200	>200	>200
Specific Conductance @ 25°C	SM18 2510B	umhos/cm	29.3	24.10	27.80
Solids, Percent	EPA 160.3	%	90	92	90.50

**General Notes:**

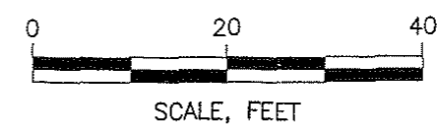
1. Only numerical results for analytes detected in at least one sample are reported here. For a complete list of analytical results, refer to laboratory data sheets or the Olin-Wilmington Active Project Database update July 21, 2004.
2. Data validation performed by LAW Engineering and Environmental Services, Inc.
3. mg/kg = Milligrams per kilogram
4. ug/kg = Microgram per kilogram (dry weight)
5. umhos/cm = Micromhos per centimeter
6. ND = Analyte(s) not detected above laboratory reporting limit. See the laboratory data sheets or the Olin-Wilmington Active Project Database for laboratory reporting limits.
7. "<" = Analyte not detected at a concentration above the specified laboratory reporting limit.

## FIGURES



**Legend:**

- MONITORING WELL BY MACTEC (2003)
- MONITORING WELL BY GEI (2001)
- SOIL BORING BY MACTEC (2003)
- SOIL BORING BY GEI (2001)
- EDGE OF WETLAND
- LP-C06 (80.68) CONFIRMATORY SAMPLE LOCATION AND ELEVATION IN FEET
- LP-BOT-A COMPOSITE BOTTOM SAMPLE LOCATION, MADE OF 4 DISCRETE SAMPLES
- ☼ SAMPLE WAS EXCAVATED AND SUPERCEDED BY SAMPLE LP-C09



<p>Part 2 Construction-Related RAM Status Report No. 8</p>	<p><b>GEI</b> Consultants</p>	<p>2004 LAKE POLY EXCAVATION LIMITS AND CONFIRMATORY SAMPLE LOCATIONS</p>
<p>Olin Corporation 51 Eames Street, Wilmington, MA</p>		
<p>Project 97598</p>	<p>September 2004</p>	<p>Figure D1</p>



Massachusetts Department of Environmental Protection  
Bureau of Waste Site Cleanup

BWSC-012B

BILL OF LADING (pursuant to 310 CMR 40.0030)

Release Tracking Number

SUMMARY SHEET

1

OF

11

3

0471

I. LOAD INFORMATION:

Load 1:

Date of Shipment:

9-14-04

Signature of Transporter Representative:

*[Signature]*

Time of Shipment:

0700

☒ AM

☐ PM

Truck/Tractor Registration:

53590

Trailer Registration (if any):

E. Coast #44

Receiving Facility/Temporary Storage Representative:

*[Signature]*

Date of Receipt:

9-14-04

Time of Receipt:

☐ AM

☐ PM

Load Size (cu. yds./tons):

36.46T.

Load 2:

Date of Shipment:

9-14-04

Signature of Transporter Representative:

*[Signature]*

Time of Shipment:

1030

☒ AM

☒ PM

Truck/Tractor Registration:

53590

Trailer Registration (if any):

E. Coast #44

Receiving Facility/Temporary Storage Representative:

*[Signature]*

Date of Receipt:

9-14-04

Time of Receipt:

☐ AM

☒ PM

Load Size (cu. yds./tons):

31.06T.

Load 3:

Date of Shipment:

9-15-04

Signature of Transporter Representative:

*[Signature]*

Time of Shipment:

6:20

☒ AM

☐ PM

Truck/Tractor Registration:

53590

Trailer Registration (if any):

E. Coast #44

Receiving Facility/Temporary Storage Representative:

*[Signature]*

Date of Receipt:

Time of Receipt:

☐ AM

☐ PM

Load Size (cu. yds./tons):

Load 4:

Date of Shipment:

Time of Shipment:

☐ AM

☐ PM

Truck/Tractor Registration:

Trailer Registration (if any):

Receiving Facility/Temporary Storage Representative:

*[Signature]*

Date of Receipt:

Time of Receipt:

☐ AM

☐ PM

Load Size (cu. yds./tons):

Load 5:

Date of Shipment:

Time of Shipment:

☐ AM

☐ PM

Truck/Tractor Registration:

Trailer Registration (if any):

Receiving Facility/Temporary Storage Representative:

*[Signature]*

Date of Receipt:

Time of Receipt:

☐ AM

☐ PM

Load Size (cu. yds./tons):

Load 6:

Date of Shipment:

Time of Shipment:

☐ AM

☐ PM

Truck/Tractor Registration:

Trailer Registration (if any):

Receiving Facility/Temporary Storage Representative:

*[Signature]*

Date of Receipt:

Time of Receipt:

☐ AM

☐ PM

Load Size (cu. yds./tons):

J. LOG SHEET VOLUME INFORMATION:

Total Volume Recorded This Page (cu. yds./tons)

Total Carried Forward (cu. yds./tons):

Total Carried Forward and This Page (cu. yds./tons):



Massachusetts Department of Environmental Protection  
Bureau of Waste Site Cleanup

BWSC-012B

BILL OF LADING (pursuant to 310 CMR 40.0030)

Release Tracking Number

SUMMARY SHEET

2

OF

11

3

0471

I. LOAD INFORMATION: Signature of Transporter Representative:

Load 1:

Date of Shipment:

9/14/04

Time of Shipment:

6:00

☒ AM

☐ PM

Truck/Tractor Registration:

Trailer Registration (if any):

60640/3468TV

Receiving Facility/Temporary Storage Representative:

CSV

Date of Receipt:

Time of Receipt:

☐ AM

☐ PM

Load Size (cu. yds./tons):

30.96

Load 2:

Signature of Transporter Representative:

Date of Shipment:

9/14/04

Time of Shipment:

10:45

☒ AM

☐ PM

Truck/Tractor Registration:

Trailer Registration (if any):

60640 3468TV

Receiving Facility/Temporary Storage Representative:

CSV

Date of Receipt:

Time of Receipt:

☐ AM

☒ PM

Load Size (cu. yds./tons):

32.93

Load 3:

Signature of Transporter Representative:

Date of Shipment:

9/15/04

Time of Shipment:

6:15

☒ AM

☐ PM

Truck/Tractor Registration:

Trailer Registration (if any):

60640 3468TV

Receiving Facility/Temporary Storage Representative:

Date of Receipt:

Time of Receipt:

☐ AM

☐ PM

Load Size (cu. yds./tons):

Load 4:

Signature of Transporter Representative:

Date of Shipment:

Time of Shipment:

☐ AM

☐ PM

Truck/Tractor Registration:

Trailer Registration (if any):

Receiving Facility/Temporary Storage Representative:

Date of Receipt:

Time of Receipt:

☐ AM

☐ PM

Load Size (cu. yds./tons):

Load 5:

Signature of Transporter Representative:

Date of Shipment:

Time of Shipment:

☐ AM

☐ PM

Truck/Tractor Registration:

Trailer Registration (if any):

Receiving Facility/Temporary Storage Representative:

Date of Receipt:

Time of Receipt:

☐ AM

☐ PM

Load Size (cu. yds./tons):

Load 6:

Signature of Transporter Representative:

Date of Shipment:

Time of Shipment:

☐ AM

☐ PM

Truck/Tractor Registration:

Trailer Registration (if any):

Receiving Facility/Temporary Storage Representative:

Date of Receipt:

Time of Receipt:

☐ AM

☐ PM

Load Size (cu. yds./tons):

J. LOG SHEET VOLUME INFORMATION:

Total Volume Recorded This Page (cu. yds./tons)

Total Carried Forward (cu. yds./tons):

Total Carried Forward and This Page (cu. yds./tons):

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Massachusetts Department of Environmental Protection  
Bureau of Waste Site Cleanup

BWSC-012B

BILL OF LADING (pursuant to 310 CMR 40.0030)

J733

Release Tracking Number

SUMMARY SHEET

3

OF

11

3 - 0471

<b>I. LOAD INFORMATION:</b> Signature of Transporter Representative:		Receiving Facility/Temporary Storage Representative:	
<b>Load 1:</b>		<b>CSV</b>	
Date of Shipment: 9-14-04	Time of Shipment: 0715 <input checked="" type="checkbox"/> AM <input type="checkbox"/> PM	Date of Receipt:	Time of Receipt:
Truck/Tractor Registration: 37283A-CT	Trailer Registration (if any): 0650256ME	9-14-04	<input type="checkbox"/> AM <input type="checkbox"/> PM
Load Size (cu. yds./tons):		32.38 Ton	
<b>Load 2:</b> Signature of Transporter Representative:		Receiving Facility/Temporary Storage Representative:	
<b>John E. Gotschelle</b>			
Date of Shipment: 9-14-04	Time of Shipment: 1105 <input checked="" type="checkbox"/> AM <input type="checkbox"/> PM	Date of Receipt:	Time of Receipt:
Truck/Tractor Registration: 37283A-CT	Trailer Registration (if any): 0650256ME		<input type="checkbox"/> AM <input type="checkbox"/> PM
Load Size (cu. yds./tons):			
<b>Load 3:</b> Signature of Transporter Representative:		Receiving Facility/Temporary Storage Representative:	
Date of Shipment:	Time of Shipment:	Date of Receipt:	Time of Receipt:
<input type="checkbox"/> AM <input type="checkbox"/> PM		<input type="checkbox"/> AM <input type="checkbox"/> PM	
Truck/Tractor Registration:	Trailer Registration (if any):	Load Size (cu. yds./tons):	
<b>Load 4:</b> Signature of Transporter Representative:		Receiving Facility/Temporary Storage Representative:	
Date of Shipment:	Time of Shipment:	Date of Receipt:	Time of Receipt:
<input type="checkbox"/> AM <input type="checkbox"/> PM		<input type="checkbox"/> AM <input type="checkbox"/> PM	
Truck/Tractor Registration:	Trailer Registration (if any):	Load Size (cu. yds./tons):	
<b>Load 5:</b> Signature of Transporter Representative:		Receiving Facility/Temporary Storage Representative:	
Date of Shipment:	Time of Shipment:	Date of Receipt:	Time of Receipt:
<input type="checkbox"/> AM <input type="checkbox"/> PM		<input type="checkbox"/> AM <input type="checkbox"/> PM	
Truck/Tractor Registration:	Trailer Registration (if any):	Load Size (cu. yds./tons):	
<b>Load 6:</b> Signature of Transporter Representative:		Receiving Facility/Temporary Storage Representative:	
Date of Shipment:	Time of Shipment:	Date of Receipt:	Time of Receipt:
<input type="checkbox"/> AM <input type="checkbox"/> PM		<input type="checkbox"/> AM <input type="checkbox"/> PM	
Truck/Tractor Registration:	Trailer Registration (if any):	Load Size (cu. yds./tons):	

**J. LOG SHEET VOLUME INFORMATION:**

Total Volume Recorded This Page (cu. yds./tons)

Total Carried Forward (cu. yds./tons):

Total Carried Forward and This Page (cu. yds./tons):

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Massachusetts Department of Environmental Protection  
Bureau of Waste Site Cleanup

BWSC-012B

BILL OF LADING (pursuant to 310 CMR 40.0030)

Release Tracking Number

SUMMARY SHEET

4

OF

11

3 - 0471

<b>I. LOAD INFORMATION:</b> Signature of Transporter Representative: <i>[Signature]</i> <b>Load 1:</b> Date of Shipment: 9-14-04 Time of Shipment: <input checked="" type="checkbox"/> AM <input type="checkbox"/> PM Truck/Tractor Registration: <i>Poppe NH</i> Trailer Registration (if any): <i>0655737m</i>		Receiving Facility/Temporary Storage Representative: <i>[Signature]</i> Date of Receipt: 9-14-04 Time of Receipt: <input type="checkbox"/> AM <input type="checkbox"/> PM Load Size (cu. yds./tons):	
<b>Load 2:</b> Signature of Transporter Representative: <i>[Signature]</i> Date of Shipment: 9-14-04 Time of Shipment: 11:10 <input checked="" type="checkbox"/> AM <input type="checkbox"/> PM Truck/Tractor Registration: <i>Poppe NH</i> Trailer Registration (if any): <i>0655737m</i>		Receiving Facility/Temporary Storage Representative: Date of Receipt: Time of Receipt: <input type="checkbox"/> AM <input type="checkbox"/> PM Load Size (cu. yds./tons):	
<b>Load 3:</b> Signature of Transporter Representative: Date of Shipment: Time of Shipment: <input type="checkbox"/> AM <input type="checkbox"/> PM Truck/Tractor Registration: Trailer Registration (if any):		Receiving Facility/Temporary Storage Representative: Date of Receipt: Time of Receipt: <input type="checkbox"/> AM <input type="checkbox"/> PM Load Size (cu. yds./tons):	
<b>Load 4:</b> Signature of Transporter Representative: Date of Shipment: Time of Shipment: <input type="checkbox"/> AM <input type="checkbox"/> PM Truck/Tractor Registration: Trailer Registration (if any):		Receiving Facility/Temporary Storage Representative: Date of Receipt: Time of Receipt: <input type="checkbox"/> AM <input type="checkbox"/> PM Load Size (cu. yds./tons):	
<b>Load 5:</b> Signature of Transporter Representative: Date of Shipment: Time of Shipment: <input type="checkbox"/> AM <input type="checkbox"/> PM Truck/Tractor Registration: Trailer Registration (if any):		Receiving Facility/Temporary Storage Representative: Date of Receipt: Time of Receipt: <input type="checkbox"/> AM <input type="checkbox"/> PM Load Size (cu. yds./tons):	
<b>Load 6:</b> Signature of Transporter Representative: Date of Shipment: Time of Shipment: <input type="checkbox"/> AM <input type="checkbox"/> PM Truck/Tractor Registration: Trailer Registration (if any):		Receiving Facility/Temporary Storage Representative: Date of Receipt: Time of Receipt: <input type="checkbox"/> AM <input type="checkbox"/> PM Load Size (cu. yds./tons):	
<b>J. LOG SHEET VOLUME INFORMATION:</b>			
Total Volume Recorded This Page (cu. yds./tons): Total Carried Forward (cu. yds./tons): Total Carried Forward and This Page (cu. yds./tons):			



Massachusetts Department of Environmental Protection  
Bureau of Waste Site Cleanup

BWSC-012B

BILL OF LADING (pursuant to 310 CMR 40.0030)

Release Tracking Number

SUMMARY SHEET

5

OF

11

3

0471

I. LOAD INFORMATION:

Signature of Transporter Representative:

Receiving Facility/Temporary Storage Representative:

Load 1:

Date of Shipment:

Time of Shipment:

Date of Receipt:

Time of Receipt:

Truck/Tractor Registration:

Trailer Registration (if any):

Load Size (cu. yds./tons):

Load 2:

Signature of Transporter Representative:

Receiving Facility/Temporary Storage Representative:

Date of Shipment:

Time of Shipment:

Date of Receipt:

Time of Receipt:

Truck/Tractor Registration:

Trailer Registration (if any):

Load Size (cu. yds./tons):

Load 3:

Signature of Transporter Representative:

Receiving Facility/Temporary Storage Representative:

Date of Shipment:

Time of Shipment:

Date of Receipt:

Time of Receipt:

Truck/Tractor Registration:

Trailer Registration (if any):

Load Size (cu. yds./tons):

Load 4:

Signature of Transporter Representative:

Receiving Facility/Temporary Storage Representative:

Date of Shipment:

Time of Shipment:

Date of Receipt:

Time of Receipt:

Truck/Tractor Registration:

Trailer Registration (if any):

Load Size (cu. yds./tons):

Load 5:

Signature of Transporter Representative:

Receiving Facility/Temporary Storage Representative:

Date of Shipment:

Time of Shipment:

Date of Receipt:

Time of Receipt:

Truck/Tractor Registration:

Trailer Registration (if any):

Load Size (cu. yds./tons):

Load 6:

Signature of Transporter Representative:

Receiving Facility/Temporary Storage Representative:

Date of Shipment:

Time of Shipment:

Date of Receipt:

Time of Receipt:

Truck/Tractor Registration:

Trailer Registration (if any):

Load Size (cu. yds./tons):

J. LOG SHEET VOLUME INFORMATION:

Total Volume Recorded This Page (cu. yds./tons)

Total Carried Forward (cu. yds./tons):

Total Carried Forward and This Page (cu. yds./tons):

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Massachusetts Department of Environmental Protection  
Bureau of Waste Site Cleanup

BWSC-012B

BILL OF LADING (pursuant to 310 CMR 40.0030)

Release Tracking Number

SUMMARY SHEET

6 OF 11

3 - 0471

## I. LOAD INFORMATION:

Signature of Transporter Representative:

Receiving Facility/Temporary Storage Representative:

## Load 1:

Date of Shipment:

Time of Shipment:

Date of Receipt:

Time of Receipt:

Truck/Tractor Registration:

Trailer Registration (if any):

Load Size (cu. yds./tons):

## Load 2:

Signature of Transporter Representative:

Receiving Facility/Temporary Storage Representative:

Date of Shipment:

Time of Shipment:

Date of Receipt:

Time of Receipt:

Truck/Tractor Registration:

Trailer Registration (if any):

Load Size (cu. yds./tons):

## Load 3:

Signature of Transporter Representative:

Receiving Facility/Temporary Storage Representative:

Date of Shipment:

Time of Shipment:

Date of Receipt:

Time of Receipt:

Truck/Tractor Registration:

Trailer Registration (if any):

Load Size (cu. yds./tons):

## Load 4:

Signature of Transporter Representative:

Receiving Facility/Temporary Storage Representative:

Date of Shipment:

Time of Shipment:

Date of Receipt:

Time of Receipt:

Truck/Tractor Registration:

Trailer Registration (if any):

Load Size (cu. yds./tons):

## Load 5:

Signature of Transporter Representative:

Receiving Facility/Temporary Storage Representative:

Date of Shipment:

Time of Shipment:

Date of Receipt:

Time of Receipt:

Truck/Tractor Registration:

Trailer Registration (if any):

Load Size (cu. yds./tons):

## Load 6:

Signature of Transporter Representative:

Receiving Facility/Temporary Storage Representative:

Date of Shipment:

Time of Shipment:

Date of Receipt:

Time of Receipt:

Truck/Tractor Registration:

Trailer Registration (if any):

Load Size (cu. yds./tons):

## J. LOG SHEET VOLUME INFORMATION:

Total Volume Recorded This Page (cu. yds./tons)

Total Carried Forward (cu. yds./tons):

Total Carried Forward and This Page (cu. yds./tons):



Massachusetts Department of Environmental Protection  
Bureau of Waste Site Cleanup

BWSC-012B

BILL OF LADING (pursuant to 310 CMR 40.0030)

Release Tracking Number

SUMMARY SHEET

7

OF

11

3 - 0471

I. LOAD INFORMATION:		Signature of Transporter Representative:		Receiving Facility/Temporary Storage Representative:	
Load 1:					
Date of Shipment:	9/14/04	Time of Shipment:	7:37 AM	Date of Receipt:	9/14/04
Truck/Tractor Registration:	59851 MA	Trailer Registration (if any):	053460 A-ME	Time of Receipt:	
Load 2:					
Date of Shipment:	9/14/04	Time of Shipment:	11:45 AM	Date of Receipt:	
Truck/Tractor Registration:	59851 MA	Trailer Registration (if any):	053460 A-ME	Time of Receipt:	
Load 3:					
Date of Shipment:		Time of Shipment:		Date of Receipt:	
Truck/Tractor Registration:		Trailer Registration (if any):		Time of Receipt:	
Load 4:					
Date of Shipment:		Time of Shipment:		Date of Receipt:	
Truck/Tractor Registration:		Trailer Registration (if any):		Time of Receipt:	
Load 5:					
Date of Shipment:		Time of Shipment:		Date of Receipt:	
Truck/Tractor Registration:		Trailer Registration (if any):		Time of Receipt:	
Load 6:					
Date of Shipment:		Time of Shipment:		Date of Receipt:	
Truck/Tractor Registration:		Trailer Registration (if any):		Time of Receipt:	

J. LOG SHEET VOLUME INFORMATION:	
Total Volume Recorded This Page (cu. yds./tons)	
Total Carried Forward (cu. yds./tons):	
Total Carried Forward and This Page (cu. yds./tons):	

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Massachusetts Department of Environmental Protection  
Bureau of Waste Site Cleanup

BWSC-012B

BILL OF LADING (pursuant to 310 CMR 40.0030)

Release Tracking Number

SUMMARY SHEET

8

OF

11

3

- 0471

<b>I. LOAD INFORMATION:</b> Signature of Transporter Representative: <i>Ed Catto</i>		Receiving Facility/Temporary Storage Representative: <i>R. Radia</i>	
<b>Load 1:</b> Date of Shipment: <i>9/14/04</i> Time of Shipment: <i>8:00</i> <input checked="" type="checkbox"/> AM <input type="checkbox"/> PM Truck/Tractor Registration: <i>MA 33276</i> Trailer Registration (if any): <i>MA 66878</i>	Date of Receipt: <i>9/14/04</i> Time of Receipt: <input type="checkbox"/> AM <input type="checkbox"/> PM Load Size (cu. yds./tons): <i>33.45</i>		
<b>Load 2:</b> Signature of Transporter Representative: <i>Ed Catto</i> Date of Shipment: <i>9/14/04</i> Time of Shipment: <i>12:00</i> <input checked="" type="checkbox"/> AM <input checked="" type="checkbox"/> PM Truck/Tractor Registration: <i>MA 33276</i> Trailer Registration (if any): <i>MA 66878</i>		Receiving Facility/Temporary Storage Representative: Date of Receipt: Time of Receipt: <input type="checkbox"/> AM <input type="checkbox"/> PM Load Size (cu. yds./tons):	
<b>Load 3:</b> Signature of Transporter Representative: Date of Shipment: Time of Shipment: <input type="checkbox"/> AM <input type="checkbox"/> PM Truck/Tractor Registration: Trailer Registration (if any):		Receiving Facility/Temporary Storage Representative: Date of Receipt: Time of Receipt: <input type="checkbox"/> AM <input type="checkbox"/> PM Load Size (cu. yds./tons):	
<b>Load 4:</b> Signature of Transporter Representative: Date of Shipment: Time of Shipment: <input type="checkbox"/> AM <input type="checkbox"/> PM Truck/Tractor Registration: Trailer Registration (if any):		Receiving Facility/Temporary Storage Representative: Date of Receipt: Time of Receipt: <input type="checkbox"/> AM <input type="checkbox"/> PM Load Size (cu. yds./tons):	
<b>Load 5:</b> Signature of Transporter Representative: Date of Shipment: Time of Shipment: <input type="checkbox"/> AM <input type="checkbox"/> PM Truck/Tractor Registration: Trailer Registration (if any):		Receiving Facility/Temporary Storage Representative: Date of Receipt: Time of Receipt: <input type="checkbox"/> AM <input type="checkbox"/> PM Load Size (cu. yds./tons):	
<b>Load 6:</b> Signature of Transporter Representative: Date of Shipment: Time of Shipment: <input type="checkbox"/> AM <input type="checkbox"/> PM Truck/Tractor Registration: Trailer Registration (if any):		Receiving Facility/Temporary Storage Representative: Date of Receipt: Time of Receipt: <input type="checkbox"/> AM <input type="checkbox"/> PM Load Size (cu. yds./tons):	
<b>J. LOG SHEET VOLUME INFORMATION:</b>			
Total Volume Recorded This Page (cu. yds./tons) Total Carried Forward (cu. yds./tons): Total Carried Forward and This Page (cu. yds./tons):			



Massachusetts Department of Environmental Protection  
Bureau of Waste Site Cleanup

BWSC-012B

BILL OF LADING (pursuant to 310 CMR 40.0030)

SUMMARY SHEET

9

OF

11

T1435

Release Tracking Number

3 - 0471

<b>I. LOAD INFORMATION:</b>	
<b>Load 1:</b> Signature of Transporter Representative: Date of Shipment: 09-14-04 Time of Shipment: 8:00 AM <input checked="" type="checkbox"/> AM <input type="checkbox"/> PM Truck/Tractor Registration: MA 46486 Trailer Registration (if any): MA 0842315	Receiving Facility/Temporary Storage Representative: Date of Receipt: 9-14-04 Time of Receipt: <input type="checkbox"/> AM <input type="checkbox"/> PM Load Size (cu. yds./tons): 31.25
<b>Load 2:</b> Signature of Transporter Representative: Date of Shipment: 09-14-04 Time of Shipment: 12:00 PM <input type="checkbox"/> AM <input checked="" type="checkbox"/> PM Truck/Tractor Registration: MA 46486 Trailer Registration (if any): MA 0842315	Receiving Facility/Temporary Storage Representative: Date of Receipt: Time of Receipt: <input type="checkbox"/> AM <input type="checkbox"/> PM Load Size (cu. yds./tons):
<b>Load 3:</b> Signature of Transporter Representative: Date of Shipment: Time of Shipment: <input type="checkbox"/> AM <input type="checkbox"/> PM Truck/Tractor Registration: Trailer Registration (if any):	Receiving Facility/Temporary Storage Representative: Date of Receipt: Time of Receipt: <input type="checkbox"/> AM <input type="checkbox"/> PM Load Size (cu. yds./tons):
<b>Load 4:</b> Signature of Transporter Representative: Date of Shipment: Time of Shipment: <input type="checkbox"/> AM <input type="checkbox"/> PM Truck/Tractor Registration: Trailer Registration (if any):	Receiving Facility/Temporary Storage Representative: Date of Receipt: Time of Receipt: <input type="checkbox"/> AM <input type="checkbox"/> PM Load Size (cu. yds./tons):
<b>Load 5:</b> Signature of Transporter Representative: Date of Shipment: Time of Shipment: <input type="checkbox"/> AM <input type="checkbox"/> PM Truck/Tractor Registration: Trailer Registration (if any):	Receiving Facility/Temporary Storage Representative: Date of Receipt: Time of Receipt: <input type="checkbox"/> AM <input type="checkbox"/> PM Load Size (cu. yds./tons):
<b>Load 6:</b> Signature of Transporter Representative: Date of Shipment: Time of Shipment: <input type="checkbox"/> AM <input type="checkbox"/> PM Truck/Tractor Registration: Trailer Registration (if any):	Receiving Facility/Temporary Storage Representative: Date of Receipt: Time of Receipt: <input type="checkbox"/> AM <input type="checkbox"/> PM Load Size (cu. yds./tons):
<b>J. LOG SHEET VOLUME INFORMATION:</b>	
Total Volume Recorded This Page (cu. yds./tons):	
Total Carried Forward (cu. yds./tons):	
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Massachusetts Department of Environmental Protection  
Bureau of Waste Site Cleanup

BWSC-012B

BILL OF LADING (pursuant to 310 CMR 40.0030)

Release Tracking Number

SUMMARY SHEET 10 OF 11

3 - 0471

<b>I. LOAD INFORMATION:</b> Signature of Transporter Representative: <i>[Signature]</i> Load 1: 9-14-04 Date of Shipment: 8:20 Time of Shipment: <input checked="" type="checkbox"/> AM <input type="checkbox"/> PM Truck/Tractor Registration: 2695 AR NH Trailer Registration (if any): 0520 784 ME		Receiving Facility/Temporary Storage Representative: <i>[Signature]</i> Date of Receipt: 9-14-04 Time of Receipt: <input type="checkbox"/> AM <input type="checkbox"/> PM Load Size (cu. yds./tons):	
<b>Load 2:</b> Signature of Transporter Representative: <i>[Signature]</i> Date of Shipment: 9-14-04 Time of Shipment: 12:15 <input type="checkbox"/> AM <input checked="" type="checkbox"/> PM Truck/Tractor Registration: 2695 AR Trailer Registration (if any): 0520 784 ME		Receiving Facility/Temporary Storage Representative: Date of Receipt: Time of Receipt: <input type="checkbox"/> AM <input type="checkbox"/> PM Load Size (cu. yds./tons):	
<b>Load 3:</b> Signature of Transporter Representative: Date of Shipment: Time of Shipment: <input type="checkbox"/> AM <input type="checkbox"/> PM Truck/Tractor Registration: Trailer Registration (if any):		Receiving Facility/Temporary Storage Representative: Date of Receipt: Time of Receipt: <input type="checkbox"/> AM <input type="checkbox"/> PM Load Size (cu. yds./tons):	
<b>Load 4:</b> Signature of Transporter Representative: Date of Shipment: Time of Shipment: <input type="checkbox"/> AM <input type="checkbox"/> PM Truck/Tractor Registration: Trailer Registration (if any):		Receiving Facility/Temporary Storage Representative: Date of Receipt: Time of Receipt: <input type="checkbox"/> AM <input type="checkbox"/> PM Load Size (cu. yds./tons):	
<b>Load 5:</b> Signature of Transporter Representative: Date of Shipment: Time of Shipment: <input type="checkbox"/> AM <input type="checkbox"/> PM Truck/Tractor Registration: Trailer Registration (if any):		Receiving Facility/Temporary Storage Representative: Date of Receipt: Time of Receipt: <input type="checkbox"/> AM <input type="checkbox"/> PM Load Size (cu. yds./tons):	
<b>Load 6:</b> Signature of Transporter Representative: Date of Shipment: Time of Shipment: <input type="checkbox"/> AM <input type="checkbox"/> PM Truck/Tractor Registration: Trailer Registration (if any):		Receiving Facility/Temporary Storage Representative: Date of Receipt: Time of Receipt: <input type="checkbox"/> AM <input type="checkbox"/> PM Load Size (cu. yds./tons):	

J. LOG SHEET VOLUME INFORMATION:

Total Volume Recorded This Page (cu. yds./tons)

Total Carried Forward (cu. yds./tons):

Total Carried Forward and This Page (cu. yds./tons):



Massachusetts Department of Environmental Protection  
Bureau of Waste Site Cleanup

BWSC-012B

BILL OF LADING (pursuant to 310 CMR 40.0030)

Release Tracking Number

SUMMARY SHEET

11 OF 11

3 - 0471

I. LOAD INFORMATION:		Signature of Transporter Representative:		Receiving Facility/Temporary Storage Representative:	
<b>Load 1:</b>					
Date of Shipment:	9/15/04	Time of Shipment:	6:15 <input checked="" type="checkbox"/> AM <input type="checkbox"/> PM	Date of Receipt:	Time of Receipt: <input type="checkbox"/> AM <input type="checkbox"/> PM
Truck/Tractor Registration:	55425 MA	Trailer Registration (if any):	0521419 ME	Load Size (cu. yds./tons):	
<b>Load 2:</b>					
Date of Shipment:		Time of Shipment:	<input type="checkbox"/> AM <input type="checkbox"/> PM	Date of Receipt:	Time of Receipt: <input type="checkbox"/> AM <input type="checkbox"/> PM
Truck/Tractor Registration:		Trailer Registration (if any):		Load Size (cu. yds./tons):	
<b>Load 3:</b>					
Date of Shipment:		Time of Shipment:	<input type="checkbox"/> AM <input type="checkbox"/> PM	Date of Receipt:	Time of Receipt: <input type="checkbox"/> AM <input type="checkbox"/> PM
Truck/Tractor Registration:		Trailer Registration (if any):		Load Size (cu. yds./tons):	
<b>Load 4:</b>					
Date of Shipment:		Time of Shipment:	<input type="checkbox"/> AM <input type="checkbox"/> PM	Date of Receipt:	Time of Receipt: <input type="checkbox"/> AM <input type="checkbox"/> PM
Truck/Tractor Registration:		Trailer Registration (if any):		Load Size (cu. yds./tons):	
<b>Load 5:</b>					
Date of Shipment:		Time of Shipment:	<input type="checkbox"/> AM <input type="checkbox"/> PM	Date of Receipt:	Time of Receipt: <input type="checkbox"/> AM <input type="checkbox"/> PM
Truck/Tractor Registration:		Trailer Registration (if any):		Load Size (cu. yds./tons):	
<b>Load 6:</b>					
Date of Shipment:		Time of Shipment:	<input type="checkbox"/> AM <input type="checkbox"/> PM	Date of Receipt:	Time of Receipt: <input type="checkbox"/> AM <input type="checkbox"/> PM
Truck/Tractor Registration:		Trailer Registration (if any):		Load Size (cu. yds./tons):	

J. LOG SHEET VOLUME INFORMATION:

Total Volume Recorded This Page (cu. yds./tons)

Total Carried Forward (cu. yds./tons):

Total Carried Forward and This Page (cu. yds./tons):

**BILL OF LADING** (pursuant to 310 CMR 40.0030)

Release Tracking Number

SUMMARY SHEET 1 OF 1

3	-	0471
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**K. SUMMARY OF SHIPMENTS:**

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Massachusetts Department of Environmental Protection  
Bureau of Waste Site Cleanup

BWSC-012A

BILL OF LADING (pursuant to 310 CMR 40.0030)

Release Tracking Number\*

3 - 0471

A. LOCATION OF SITE OR DISPOSAL SITE WHERE REMEDIATION WASTE WAS GENERATED:

Release Name (optional): 51 Eames Street Site (Olin Corporation)

Street: 51 Eames Street

Location Aid:

City/Town: Wilmington

ZIP Code: 01887-3393

Date/Period of Generation: June 7 2004 to: June 30, 2004

Additional Release Tracking Numbers Associated with this Bill of Lading:

\* Note: If this Bill of Lading is the result of a Limited Removal Action (LRA) taken prior to Notification, a Release Tracking Number is not needed.

B. PERSON CONDUCTING RESPONSE ACTION ASSOCIATED WITH BILL OF LADING:

Name of Organization: Olin Corporation

Name of Contact: Stephen G. Morrow

Title: Principal Environmental Specialist

Street: 1186 Lower River Road

City/Town: Charleston

State: TN

ZIP Code: 37310

Telephone: (423) 336-4511

Ext.:

C. RELATIONSHIP TO RELEASE OF PERSON CONDUCTING RESPONSE ACTION ASSOCIATED WITH BILL OF LADING:

☒ RP or PRP Specify: ☒ Owner ☒ Operator ☒ Generator ☐ Transporter Other RP or PRP:

☐ Fiduciary, Secured Lender or Municipality with Exempt Status (as defined by M.G.L. c. 21E, s. 2)

☐ Agency or Public Utility on a Right of Way (as defined by M.G.L. c. 21E, s. 5(j))

☐ Other Person:

If an owner and/or operator is not conducting the response action associated with the Bill of Lading, provide on an attachment the name, contact person, address and telephone number, including any area code and extension, for each, if known.

D. TRANSPORTER OR COMMON CARRIER INFORMATION:

Transporter/Common Carrier Name: Sams Transportation

Contact Person: Cathy Harrington,

Title: Manager (215) 428.4356

Street: P.O. Box 241

City/Town: Georgetown,

State: MA

ZIP Code: 01833

Telephone: (888) 352-6689

Ext.:

E. RECEIVING FACILITY/TEMPORARY STORAGE LOCATION:

Operator/Facility Name: Turnkey Landfill (WM Facility)

Contact Person: Cathy Harrington

Title: Manager Rep. (215) 428.4356

Street: 90 Rochester Neck Road

City/Town: Rochester

State: NH

ZIP Code: 03839

Telephone: 603.330.2134

Ext.:

Type of Facility: ☐ Asphalt Batch/Cold Mix

☒ Landfill/Disposal

☐ Incinerator

☐ Temporary Storage

(check one) ☐ Asphalt Batch/Hot Mix

☐ Landfill/Daily Cover

☐ Other:

☐ Thermal Processing

☐ Landfill/Structural Fill

EPA Identification #:

Division of Hazardous Waste/Class A Permit #:

Division of Solid Waste Management Permit #:

Actual/Anticipated Period of Temporary Storage (specify dates if applicable):

to:

Reason for Temporary Storage:



Massachusetts Department of Environmental Protection  
Bureau of Waste Site Cleanup

BWSC-012A

BILL OF LADING (pursuant to 310 CMR 40.0030)

Release Tracking Number\*

3 0471

E. RECEIVING FACILITY/TEMPORARY STORAGE LOCATION (continued):

Temporary Storage Address:

Street: \_\_\_\_\_

City/Town: \_\_\_\_\_ State: \_\_\_\_\_ ZIP Code: \_\_\_\_\_

F. DESCRIPTION OF REMEDIATION WASTE:

(check all that apply)

- ☒ Contaminated Media (check all that apply): ☒ Soil ☐ Groundwater ☐ Surface Water ☒ Other: \_\_\_\_\_
- ☒ Contaminated Debris (check all that apply): ☐ Vegetation or Organic Debris ☐ Demolition/Construction Waste  
☐ Inorganic Absorbent Materials ☒ Other: Scrap Metal < 2 cubic yards
- ☐ Non-hazardous Uncontainerized Waste (check all that apply): ☐ Non-aqueous Phase Liquid ☐ Other: \_\_\_\_\_
- ☐ Non-hazardous Containerized Waste (check all that apply): ☐ Tank Bottoms/Sludges ☐ Containers ☐ Drums  
☐ Engineered Impoundments ☐ Other: \_\_\_\_\_

Type of Contamination (check all that apply): ☐ Gasoline ☐ Diesel Fuel ☐ #2 Oil ☐ #4 Oil ☐ #6 Oil ☐ Waste Oil  
☐ Kerosene ☐ Jet Fuel ☒ Other: Chromium, ammonia

Estimated Volume of Materials: Cubic Yards: 600 Tons: \_\_\_\_\_ Other: \_\_\_\_\_

Contaminant Source (check one/specify): ☐ Transportation Accident ☐ Underground Storage Tank ☒ Other: Excavation

Response Action Associated with Bill of Lading (check one): ☐ Immediate Response Action ☒ Release Abatement Measure

☐ Utility-Related Abatement Measure ☐ Limited Removal Action ☐ Comprehensive Response Action ☐ Other: \_\_\_\_\_

Remediation Waste Characterization Support Documentation attached:

☐ Site History Information ☒ Sampling and Analytical Methods and Procedures ☒ Laboratory Data ☐ Field Screening Data

If supporting documentation is not appended, provide an attachment stating the date and in connection with what document such information was previously submitted to DEP.

G. LICENSED SITE PROFESSIONAL (LSP) OPINION:

Name of Organization: Sleeman, Hanley & DiNitto, Inc.

LSP Name: M. Margaret Hanley Title: Principal

Telephone: (617) 330-2800 Ext.: \_\_\_\_\_

I attest under the pains and penalties of perjury that I have personally examined and am familiar with this submittal, including any and all documents accompanying this submittal. In my professional opinion and judgment based upon application of

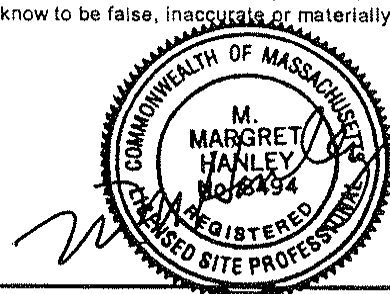
- (i) the standard of care in 309 CMR 4.02(1),  
(ii) the applicable provisions of 309 CMR 4.02(2) and (3), and  
(iii) the provisions of 309 CMR 4.03(5),

to the best of my knowledge, information and belief, the assessment actions undertaken to characterize the Remediation Waste which is (are) the subject of this submittal for acceptance at the facility identified in this submittal comply with the applicable provisions of 310 CMR 40.0000, and such facility is permitted to accept Remediation Waste having the characteristics described in this submittal. I am aware that significant penalties may result, including, but not limited to, possible fines and imprisonment, if I submit information which I know to be false, inaccurate or materially incomplete.

LSP Signature: M. Margaret Hanley Seal:

Date: September 13, 2004

License Number: 8494





Massachusetts Department of Environmental Protection  
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BWSC-012A

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3 - 0471

H. CERTIFICATION OF PERSON CONDUCTING RESPONSE ACTION ASSOCIATED WITH THIS BILL OF LADING:

I certify under penalties of law that I have personally examined and am familiar with the information contained in this submittal, including any and all documents accompanying this certification, and that, based on my inquiry of those individuals immediately responsible for obtaining the information, the material information contained herein is, to the best of my knowledge and belief, true, accurate and complete. I am aware that there are significant penalties, including, but not limited to, possible fines and imprisonment, for willfully submitting false, inaccurate, or incomplete information.

Signature: Steve Markow

Date: Sept 13, 2004

Name of Person (print): STEVE MARKOW

# PROFILE TONNAGE DETAIL REPORT

Transactions from 09/14/2004 through 09/14/2004

Inbound and Outbound Tickets

3rd Party and Interco Customers

Recycle and Disposal Waste

<u>Date</u>	<u>Ticket</u>	<u>Truck</u>	<u>Waste</u>	<u>In / Out</u>	<u>Units</u>	<u>Yards</u>	<u>Tons</u>
CW1760 / LAKE POLY SOIL >EVENT<							
9/14/2004	229335	44	22	I	0.00	0.00	36.46
9/14/2004	229341	328	22	I	0.00	0.00	32.93
9/14/2004	229347	J733	22	I	0.00	0.00	32.38
9/14/2004	229348	97	22	I	0.00	0.00	33.86
9/14/2004	229349	TREE337	22	I	0.00	0.00	31.05
9/14/2004	229362	TREE290	22	I	0.00	0.00	31.79
9/14/2004	229373	TREE820	22	I	0.00	0.00	24.77
9/14/2004	229391	T-16	22	I	0.00	0.00	33.45
9/14/2004	229393	TREE1435	22	I	0.00	0.00	31.25
9/14/2004	229401	11	22	I	0.00	0.00	37.48
9/14/2004	229497	44	22	I	0.00	0.00	31.06
9/14/2004	229499	328	22	I	0.00	0.00	30.96
9/14/2004	229509	733	22	I	0.00	0.00	29.32
9/14/2004	229512	97	22	I	0.00	0.00	33.49
9/14/2004	229517	TREE337	22	I	0.00	0.00	32.07
9/14/2004	229531	TREE820	22	I	0.00	0.00	34.12
9/14/2004	229548	TREE1435	22	I	0.00	0.00	28.99
9/14/2004	229549	TREE290	22	I	0.00	0.00	29.82
9/14/2004	229553	T16	22	I	0.00	0.00	32.82
9/14/2004	229559	11	22	I	0.00	0.00	32.43
Totals for CW1760 / LAKE POLY SOIL >EVENT<						0.00	640.50
20 Ticket(s)							
20 Transaction(s)							
REPORT GRAND TOTALS						0.00	640.50
20 Total Ticket(s)							
20 Total Transaction(s)							

# PROFILE TONNAGE DETAIL REPORT

Transactions from 09/15/2004 through 09/15/2004

Inbound and Outbound Tickets

3rd Party and Interco Customers

Recycle and Disposal Waste

<u>Date</u>	<u>Ticket</u>	<u>Truck</u>	<u>Waste</u>	<u>In / Out</u>	<u>Units</u>	<u>Yards</u>	<u>Tons</u>
CW1760 / LAKE POLY SOIL >EVENT<							
9/15/2004	229703	328	22	I	0.00	0.00	31.28
9/15/2004	229710	44	22	I	0.00	0.00	33.19
9/15/2004	229739	TW18	22	I	0.00	0.00	31.81
Totals for CW1760 / LAKE POLY SOIL >EVENT<						0.00	96.28
3 Ticket(s)							
3 Transaction(s)							
REPORT GRAND TOTALS						0.00	96.28
3 Total Ticket(s)							
3 Total Transaction(s)							